

ARTICLE

PROTECTING THE PRIVATE INVENTOR UNDER THE PEACETIME PROVISIONS OF THE INVENTION SECURITY ACT

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I. INTRODUCTION

The Invention Secrecy Act of 1951¹ provides that whenever "the publication or disclosure of the invention by the granting of a patent ... would be detrimental to the national security ... the Commissioner [of Patents] shall order that the invention be kept secret"² Such an order prohibits the inventor from publishing or disclosing any material information relating to the invention.³

Since 1917, when the first invention secrecy act was created,⁴ until the end of a twenty-nine year national emergency in 1979,⁵ virtually all of the secrecy orders existing in this country were authorized under legislation designed to protect the United States against the threat of conflict during times of war or national emergency.⁶ With the recent end to the Cold War, however, the threat to national security diminished significantly.⁷ Thus, one may ask whether the invention secrecy doctrine, which was created specifically in response to the threat of war, can be applied to authorize secrecy orders during a time of peace.

The government's increasing propensity to impose peacetime secrecy orders underscores the need to reassess their validity under changed conditions. Since 1983, the number of government-imposed secrecy orders increased by about 40 percent, from 3,900 in 1983 to 6,033 in 1993.⁸ This latter figure is comparable to the number of orders in effect at the height of World War II.⁹ This increase may be partially attributed to

1. Invention Secrecy Act of 1951, ch. 4, 66 Stat. 3 (1952) (codified as amended at 35 U.S.C. §§ 181-188 (1994)).

2. 35 U.S.C. § 181 para. 3 (1994).

3. See 35 U.S.C. §§ 182, 186 (1994).

4. Act of Oct. 6, 1917, ch. 95, 40 Stat. 394 (1917).

5. President Truman declared a national emergency on December 16, 1950. Proclamation No. 2914, 3 C.F.R. 99 (1949-1953). This national emergency was terminated by the National Emergencies Act of 1976, Pub. L. No. 94-412, Title I, § 101, 90 Stat. 1255 (1976).

6. See discussion *infra* Parts II.A-C.

7. The United States still faces potential threats from countries such as France, China, Japan, Israel, Iraq, and Russia. See Ralph Vartabedian, *Most Promising U.S. Technology Still Kept Secret*, L.A. TIMES, July 13, 1993, at A1, A12. However, none of these threats has ever created a serious threat of actual conflict reaching American soil.

8. See Steven Aftergood, *Invention Secrecy Criteria Disclosed*, SECRECY & GOV'T BULL., Nov. 1994 (Federation of American Scientists) (visited Nov. 23, 1997) <<http://www.awpi.com/IntelWeb/US/S-GB/041.html>>.

9. During World War II, the number of secrecy orders in effect peaked at 8,293 on December 31, 1944. See H.R. REP. NO. 1540, 96th Cong., 2d Sess. 37 (1980). From 1951 to

the Cold War threat during the 1980s and partially attributed to the general increase in the number of patents being issued. However, the number of secrecy orders is still unusually high for a country that currently faces no major conflict.¹⁰

Invention secrecy orders negatively impact private interests. Although invention secrecy originally affected only military employees and military technologies, in recent years the Invention Secrecy Act has increasingly been applied to private inventors.¹¹ Many of these inventors develop dual-use technologies, i.e., inventions with both military and commercial purposes.¹² In 1991, over three-quarters of all new secrecy orders—506 out of 774—were issued to private inventors.¹³ These orders covered technologies such as computer hardware, advanced ceramics, laser systems, semiconductor manufacturing technologies, automated process control systems, highly specialized software, video display technology, space photography, industrial plating, and advanced sensors.¹⁴ Thus, one may ask whether peacetime secrecy orders place unnecessary burdens upon private inventors of primarily non-military inventions.

This article addresses general questions regarding the necessity and justifications for an invention secrecy doctrine during peacetime, and specifically, whether the Invention Secrecy Act as currently enacted adequately protects the rights of private inventors. This article is divided into three parts. The first part of the article traces the legislative development of the invention secrecy doctrine, focusing on its historical justifications and the interests that the legislature intended to protect. The second part explores the mechanical aspects of the Act, paying special attention to how a secrecy order is imposed and how inventors may be compensated for the issuance of a secrecy order, in order to

1958, the number of secrecy orders rose from 3,435 to 6,149, and remained between 4,100 and 5,100 for the next twenty years. *See id.* at 1-2.

10. *See Even After Cold War, Patents Remain Secret*, INSIDE R&D (Technical Insights, Inc.), June 3, 1992, available in 1992 WL 2799306.

11. *See id.*; see also Gary L. Hausken, *The Value of a Secret: Compensation for Imposition of Secrecy Orders Under the Invention Secrecy Act*, 119 MIL. L. REV. 201, 202 (1988) (citing Interview with John Raubitchek, Patents, Copyrights, and Trademarks Division, Office of the Judge Advocate General, Department of the Army (Feb. 26, 1987)).

12. *See Even After Cold War, Patents Remain Secret*, *supra* note 10.

13. *See* Edmund Andrews, *Cold War Secrecy Still Shrouds Inventions*, S.F. CHRON., May 23, 1992, at A23. This is in comparison to 43 of 250 secrecy orders in 1979. *See id.*

14. *See id.*; see Vartabedian, *supra* note 7, at A12 (the push toward commercial applications is signified by President Clinton's proposed twenty billion dollar effort to help convert the defense industry to commercial enterprises).

ascertain whether the Act sufficiently minimizes burdens on private inventors. The final part applies constitutional scrutiny to the peacetime provisions of the Invention Secrecy Act under the First and Fifth Amendments to determine whether the burdens placed on private inventors are constitutional. The article concludes that while invention secrecy remains an important peacetime policy, the government should limit its application to ensure that an inventor's patent rights are not unduly burdened.

II. THE LEGISLATIVE HISTORY OF INVENTION SECRECY

A. The First Invention Secrecy Act

The power of the government to keep certain inventions secret to protect national security is well-established in the United States. Since World War I, the government has been concerned that "those inventions which are of most use to the Government during a time of war are also those which would, if known, convey useful information to the enemy."¹⁵ For this reason, in preparation for the United States' entry into World War I, Congress passed the Act of October 6, 1917.¹⁶ The 1917 Act stated, in part:

That whenever during a time when the United States is at war the publication of an invention by the granting of a patent might, in the opinion of the Commissioner of Patents, be detrimental to the public safety or defense or might assist the enemy or endanger the successful prosecution of the war he may order that the invention be kept secret and withhold the grant of a patent until the termination of the war¹⁷

At the heart of this provision is Congress' desire to protect the "public safety or defense" *during wartime*. The legislative history accompanying the Act also emphasizes this point.¹⁸ When World War I ended in 1918, the necessity for invention secrecy, at least for the time being, also expired.

While the 1917 Act was in effect, the burdens of invention secrecy fell most directly on individuals seeking patents for inventions with potential national security implications. For inventions which the Commissioner of Patents deemed secrecy to be appropriate, the government issued a secrecy order temporarily preventing the inventor

15. S. REP. NO. 119, 65th Cong., 1st Sess. at 1 (1917).

16. Act of Oct. 6, 1917, ch. 95, 40 Stat. 394 (1917).

17. *Id.*

18. See S. REP. NO. 119, *supra* note 15, at 1.

from obtaining a patent until the end of the war.¹⁹ The government enforced strict penalties for the violation of secrecy orders: by publishing an invention or filing for a patent in a foreign country without proper permission, inventors could forever lose their right to obtain a patent.²⁰

Placing the burden of invention secrecy on inventors created two problems for Congress. First, the mere threat of a secrecy order might have discouraged an inventor from even filing for a patent, thereby depriving the government of potentially useful inventions. Second, inventors' rights required protection under the Act. The Senate Report accompanying the 1917 Act recognized these problems and emphasized the need "to stimulate invention, and provide adequate protection to owners of patents."²¹ The solution was a system of compensation:

When an applicant whose patent is withheld as herein provided and who faithfully obeys the order of the Commissioner of Patents above referred to shall tender his invention to the Government of the United States for its use, he shall, if and when he ultimately received [sic] a patent, have the right to sue for compensation in the Court of Claims²²

By providing for a system of compensation, the Act attempted: (1) to stimulate invention, by eliminating the deterrent effects that the threat of a secrecy order might have on an inventor thinking about applying for a patent; and (2) to protect inventors' rights, by substituting monetary compensation for the reward that an inventor otherwise might have received from timely receipt of a patent. The inventor received no compensation, however, for those inventions that created a national security threat but for which the government had no use. By conditioning the right to compensation on the tendering of the invention and the use of the invention by the government, Congress meant only to stimulate inventions that the government might actually use for its own purposes.

The duration of a secrecy order was limited to the period of the war. Therefore, most secrecy orders lasted only about a year. Because the war ended so quickly, the Act of 1917 did not substantially affect inventors.

B. Invention Secrecy During World War II

After World War I, the invention secrecy doctrine lay dormant for more than two decades. In 1940, in preparation for the United States' entry into World War II, the statute was renewed by the Act of July 1,

19. See Act of Oct. 6, 1917, ch. 95, 40 Stat. 394 (1917).

20. See *id.*

21. S. REP. NO. 119, *supra* note 15, at 1.

22. Act of Oct. 6, 1917, ch. 95, 40 Stat. 394 (1917).

1940.²³ The 1940 Act basically reinstated the essential provisions of the 1917 Act. Congress ensured that the effect of invention secrecy would be temporary, giving the Act a duration of only two years.²⁴ The specific two-year period was necessary because at the time of enactment the United States had not yet entered the war, so Congress needed a way to ensure that the 1940 Act would have a definite end. On June 16, 1942, after the United States had officially entered the war, Congress amended the 1940 Act to provide that its provisions remain in effect "during the time when the United States is at war."²⁵ Thus, like the 1917 Act, the 1940 Act authorized the use of secrecy orders only during wartime.

The invention secrecy doctrine of World War II contained several notable changes from the World War I doctrine. In particular, the Act of August 21, 1941,²⁶ amending the 1940 Act, placed several additional limitations on inventors' rights. The 1941 Act reemphasized the restriction found in the 1917 Act, that to apply for a patent abroad, the applicant must obtain a license from the Commissioner of Patents.²⁷ Any person found in noncompliance with this licensing procedure was barred from receiving a United States patent.²⁸ Stricter penalties were created for violation of a secrecy order. In addition to abandonment of the invention, an inventor could be fined \$10,000 or be imprisoned if convicted of willful publication or disclosure of an invention under secrecy order, or of willful filing in a foreign country of a patent application.²⁹

During World War II, the government formalized the decision-making process guiding the issuance of secrecy orders. In August 1940, the Commissioner of Patents requested the Secretary of War and the Secretary of the Navy to create the Army and Navy Patent Advisory Board (ANPAB).³⁰ ANPAB assisted the Patent Office in determining when a patent application might relate to issues of national defense.³¹ In 1948, ANPAB was renamed the Armed Services Patent Advisory Board

23. Act of July 1, 1940, ch. 501, 54 Stat. 710 (1940).

24. *See id.*

25. Act of June 16, 1942, ch. 415, 56 Stat. 370 (1942).

26. Act of Aug. 21, 1941, ch. 393, 55 Stat. 657 (1941).

27. *See id.*

28. *See id.*

29. *See id.*

30. *See* H.R. REP. NO. 1540, *supra* note 9, at 37.

31. *See id.*

(ASPAB).³² ASPAB still exists and continues to provide the Patent Office with substantial guidance on when to issue a secrecy order.³³

C. The Creation of Peacetime Invention Secrecy

The end to World War II in 1945 brought with it the general end to secrecy orders that had been imposed during the war. On November 30, 1945, the Commissioner of Patents issued a rescission order to release most of the patent applications from secrecy order status.³⁴ This removed 6,575 secrecy orders.³⁵ The Secretary of Commerce explained that because the applications have both military and commercial significance, the owners of these applications should to be able to exploit their inventions commercially.³⁶

Despite the end to actual conflict, national security continued to be a significant concern. Cold War tensions were mounting, as indicated by President Truman's September 23, 1949 announcement that the Soviet Union had tested an atomic bomb.³⁷ In 1950, the start of the Korean War again brought war-related national security issues to the forefront. By 1951, the United States still had not declared an end to the war with Germany, nor had it signed the Japanese Peace Treaty.³⁸ As a result, certain patent applications continued to remain under secrecy orders past 1945. These secrecy orders were properly issued under the 1940 Act and its amendments because the national emergency declared prior to World War II was not terminated until 1952.³⁹ As of December 31, 1945, 799 applications were still kept secret by the government.⁴⁰ However, the government continued to issue new secrecy orders for applications

32. *See id.*

33. *See* 37 C.F.R. § 5.1; 35 U.S.C. § 181 para. 3; Aftergood, *supra* note 8.

34. *See* H.R. REP. NO. 1540, *supra* note 9, at 46.

35. *See id.* at 47.

36. *See id.* at 46.

37. *See id.* at 50.

38. *See* S. REP. NO. 1001, H.R. REP. NO. 1028, 82d Cong., 1st Sess. (1951), *reprinted in* 1952 U.S.C.C.A.N. 1322.

39. The formal end to the hostilities was declared by President Truman on December 31, 1946. Proclamation No. 2714, 3 C.F.R. 99 (1943-1948), *reprinted in* 61 Stat. 1048 (1946). The national emergency declared in preparation for World War II was terminated on April 28, 1952. Proclamation No. 2974, 3 C.F.R. 158 (1949-1953), *reprinted in* 66 Stat. ch. 31 (1952).

40. *See* H.R. REP. NO. 1540, *supra* note 9, at 47.

deemed to carry particular national security concerns.⁴¹ By 1951, the number of secrecy orders grew to 2,395.⁴²

The Department of Defense repeatedly requested that Congress grant renewed invention secrecy authority.⁴³ In response to these requests, Congress repealed the acts of 1917, 1940, 1941, and 1942, and passed the Invention Secrecy Act of 1951.⁴⁴ The 1951 Act contained several significant changes. A very important change was the creation of the semi-permanent secrecy order during peacetime:

An invention shall not be ordered kept secret and the grant of a patent withheld for a period of more than one year. The Commissioner shall renew the order at the end thereof, or at the end of any renewal period, for additional periods of one year upon notification by the head of the department or the chief officer of that agency who caused the order to be issued that an affirmative determination has been made that the national interest continues so to require.⁴⁵

Under the new doctrine, a year-long secrecy order, capable of indefinite renewal so long as the national interest requires, can be issued during peacetime.

The 1951 Act also effected several other important changes. First, the Act set out specific terms for invention secrecy during times of war or national emergency. During wartime, a secrecy order "shall remain in effect for the duration of hostilities and one year following cessation of hostilities."⁴⁶ During a declared state of national emergency, a secrecy order "shall remain in effect for the duration of the national emergency and six months thereafter."⁴⁷ The national emergency provision was especially important because in 1950, President Truman declared a national emergency that would last until March 1979.⁴⁸ Therefore, it was not until 1979 that the Invention Secrecy Act operated under its peacetime provisions. Second, the 1951 Act expanded inventors' rights by giving them the right to appeal a secrecy order to the Secretary of Commerce⁴⁹ and by reducing the foreign filing restrictions contained in the previous acts. The Act prohibited inventors from filing outside the

41. *See id.* at 47-48.

42. *See id.* at 47.

43. *See id.* at 1.

44. Invention Secrecy Act of 1951, ch. 4 §§10 & 11, 66 Stat. 3 (1952) (codified as amended at 35 U.S.C. §§ 181-188 (1994)).

45. 35 U.S.C. § 181 para. 4 (1994).

46. *Id.*

47. *Id.*

48. *See supra* note 5.

49. *See* 35 U.S.C. § 181 para. 3 (1994).

United States within six months of filing in the U. S. without a license from the Secretary of Commerce.⁵⁰

Perhaps the most significant change with respect to inventors' rights was a revision of the compensation provisions. The new provisions stated in relevant part that:

An applicant ... whose patent is withheld as herein provided, shall have the right ... to apply to the head of any department or agency who caused the order to be issued *for compensation for the damage caused by the order of secrecy and/or for the use of the invention by the Government*⁵¹

Under the revised statute, inventors could receive compensation for the damage caused by the order of secrecy, and did not have to first tender their inventions to the government as the previous acts required.⁵² Through these new provisions, the Department of Defense gave expanded rights to inventors in order to extend the invention secrecy doctrine.

D. Evaluation of Peacetime Invention Secrecy as Legislative Policy

This part analyzes whether there is sufficient justification for peacetime invention secrecy. This part also examines the degree to which the Act conflicts with the principles of the patent system. Throughout the analysis, particular attention will be placed on invention secrecy hearings that took place in 1980 before the House Committee on Government Operations.⁵³ These hearings and the subsequent report entitled "*The Government's Classification of Private Ideas*,"⁵⁴ are significant because they came immediately after the national emergency was lifted in 1979, when peacetime invention secrecy took effect for the first time.⁵⁵ Several arguments made therein raise significant questions regarding the legitimacy of peacetime invention secrecy policy. This part concludes with a proposal for revising invention secrecy policy to better balance the competing goals of national security and patent right interests.

50. See 35 U.S.C. § 184 (1994).

51. 35 U.S.C. § 183 (1994) (emphasis added).

52. See S. REP. NO. 1001, H.R. REP. NO. 1028, *supra* note 38, reprinted in 1952 U.S.C.C.A.N. at 1323; see also H.R. REP. NO. 1540, *supra* note 9.

53. *The Government's Classification of Private Ideas: Hearings Before a Subcomm. of the House Comm. on Government Operations*, 96th Cong., 2d Sess. (1980) [hereinafter *Hearings*].

54. H.R. REP. NO. 1540, *supra* note 9.

55. In 1979, government agencies were required to determine affirmatively for each patent application subject to secrecy order that secrecy was still required. The review of these patent applications resulted in the renewal of 3,300 orders. See *Hearings*, *supra* note 53, at 19.

1. THE NATIONAL SECURITY INTEREST DURING PEACETIME

National security was Congress' primary reason for enacting invention secrecy legislation. "Inventions useful in war are made and developed during times of peace and it is important to prevent knowledge of such inventions being disclosed during times of peace as well as times of war."⁵⁶ The legitimacy of this rationale is weakened, however, by the fact that when the legislation was created, Congress was not actually legislating in anticipation of peace, but in fear of war.

a. Congress Has Failed to Give Modern Justification for Peacetime Secrecy Orders

The most significant problem with Congress' rationale for peacetime invention secrecy derives from the fact that the 1951 legislation was based on conditions different from those existing today. When the Invention Secrecy Act was created, the country was just beginning to recover from World War II, and the threat of war remained a significant concern.⁵⁷ The Department of Defense firmly believed in the need for peacetime invention secrecy due to continued threats to the national security, specifically, the Soviet Union's testing of an atomic bomb and the Korean War.⁵⁸ These circumstances influenced Congress when it decided to enact invention secrecy for peacetime.⁵⁹

Although the United States continues to be threatened by terrorist attacks and possible outbreaks of war, no *concrete and continuous* threat analogous to that which weighed heavily on the minds of the 1950s' legislators exists today. These outdated motivations do not justify current issuance of secrecy orders. This is not to say that the rationale stated in the legislative history of the 1951 Act—that inventions useful in war are made during times of peace—no longer has any bearing on the justification of secrecy orders.⁶⁰ However, for Congress to continue to apply this rationale, it should make some minimal findings on modern

56. S. REP. NO. 1001, H.R. REP. NO. 1028, *supra* note 38, reprinted in 1952 U.S.C.C.A.N. at 1323-24.

57. *See id.* at 1322.

58. *See* H.R. REP. NO. 1540, *supra* note 53, at 50; *see also supra* text accompanying notes 37-39.

59. Congress relied extensively on the input of the Department of Defense in deciding to create the Invention Secrecy Act. *See id.* at 1, 50, 55; S. REP. NO. 1001, H.R. REP. NO. 1028, *supra* note 38, reprinted in 1952 U.S.C.C.A.N. at 1323-24.

60. For an analysis of the sufficiency of the old rationale with respect to modern secrecy orders, see discussion *infra* Part II.D.1.

circumstances that necessitate such a policy. Absent such findings, peacetime invention secrecy operates without legitimacy.

Furthermore, when Congress created the peacetime secrecy order, it was not actually legislating in anticipation of peace. The 1980 Report states: "Congress never set down a rationale for invention secrecy in peacetime. It avoided that issue in legislating the Invention Secrecy Act of 1951 by granting secrecy orders a lifetime six months beyond the duration of President Truman's December 1950 proclamation of national emergency."⁶¹ Congress failed to justify peacetime invention secrecy because all secrecy orders that were to be issued under the new act were authorized under the national emergency provision. For this reason, the rationale offered by Congress in the legislative history of the Act only supports the need for a national emergency provision, and not a peacetime provision. When the national emergency ended twenty-seven years after the Act was created, it was all but forgotten that Congress had never truly justified peacetime orders. Congress today should "[m]ake the necessary findings and declaration of public policy that would justify the exercise of invention secrecy powers in peacetime."⁶²

b. Peacetime Invention Secrecy May Still Be Necessary

The wartime rationale still might provide useful arguments supporting peacetime invention secrecy. Peacetime publication of certain inventions could be used by enemies against the United States during times of war. Some inventions may be so dangerous that their mere disclosure will create a threat to national security. For instance, the disclosure of the workings of a bomb may allow a terrorist access to information necessary for an attack on the United States. Even though the original rationale for peacetime secrecy orders may have been based on outdated national security concerns, the substance of the rationale provides a compelling argument for why peacetime invention secrecy continues to be necessary. The issuance of secrecy orders not only prevents foreign adversaries from obtaining important military technology, but it also allows the United States government to use the secret technology to its own advantage should war actually occur. Therefore, to protect the country against future national security risks, invention secrecy remains necessary even during times of peace.

61. See H.R. REP. NO. 1540, *supra* note 9, at 3.

62. *Id.* at 32.

2. THE CONFLICTS BETWEEN INVENTION SECRECY AND THE PATENT SYSTEM

The importance of protecting the rights of the inventor, like protecting national security, has been recognized since the beginning of invention secrecy.⁶³ The Constitution also recognizes the importance of inventors by empowering Congress to create patent laws.⁶⁴ However, inventors' rights have never received the same degree of protection as national security interests under the Invention Secrecy Act. Invention secrecy "conflicts with the principles of the patent system."⁶⁵ This necessitates an examination of the effect that secrecy orders place on inventors' rights and the overall goals of the patent system.

The 1980 Report identifies the primary dilemma faced by inventors: "Invention secrecy ... ensnares the inventors who work outside of the classified information community. It gives these nonmember inventors the choice of presenting their discoveries to the public without ownership protection, or of trying to obtain a patent and thereby risking Government confiscation of their ideas."⁶⁶ The private inventor easily could have published his invention in academic journals without fear of a secrecy order.⁶⁷ The inventor also could have pursued trade secret protection in lieu of seeking a patent. By applying for a patent instead, the inventor risks receiving a secrecy order which not only prevents him or her from obtaining a patent, but also prohibits all publication or disclosure relating to the invention.

Despite these problems, the national security interest at the heart of invention secrecy policy should not be completely compromised for the sake of inventors' rights. If the disclosure of an invention results in a breach of national security, then the issuance of secrecy orders benefits national security and such a benefit outweighs the costs imposed on inventors. Moreover, the imposition of secrecy orders on private inventors is not that severe. For example, "secrecy orders in many cases [create] an extension of the patent monopoly for ... conceivably ... substantial periods beyond the ... term of the issued patent."⁶⁸ Also, inventors receive some compensation.⁶⁹ Thus, as a matter of legislative policy, the burdens placed on inventors are justified.⁷⁰

63. See discussion *supra* Part I.A.

64. See U.S. CONST. art. I, § 8, cl. 8.

65. See H.R. REP. NO. 1540, *supra* note 9, at 1.

66. *Id.* at 2.

67. See *id.* at 21.

68. See H.R. REP. NO. 1540, *supra* note 9.

69. See 35 U.S.C. § 183 (1994). When the peacetime provisions were introduced, many of the rules became more sympathetic to inventors by creating the right to appeal a secrecy

However, the problem remains that invention secrecy inherently conflicts with the interests of the patent system. Patents are not only designed to benefit inventors, but also are intended to benefit the public as well. "[A patent] is the reward stipulated for the advantages derived by the public for the exertions of the individual, and is intended as a stimulus to those exertions."⁷¹ The suppression of inventions temporarily deprives the public of information that it would otherwise have obtained sooner. Inventions with purely military applications may not serve the public interest because the government is the only party with a need for these inventions.⁷² However, because invention secrecy no longer affects only military applications,⁷³ a secrecy order may deprive the public of inventions with useful commercial applications. In addition, the mere threat of a secrecy order may discourage the inventor from filing for a patent, despite the promise of compensation, thereby frustrating the constitutional goal of promoting the useful arts.⁷⁴ The value to the public lies not only in the actual use of the invention but in the dynamic scientific knowledge stimulated by studying the invention. Consequently, the secrecy order impedes the ability of the patent system to stimulate new and useful inventions.

3. RESOLVING THE CONFLICT

The need to promote the patent interest directly conflicts with the need to protect national security during peacetime. Peacetime invention secrecy can be justified because, in general, the public is better served by legislation that protects the national security than legislation that protects the patent interest. However, because the national security interest is less compelling during peacetime, certain limitations should be placed on the legislation in order to provide the public with the most patent protection possible.

order and loosening the restrictions on foreign filings and receiving compensation. See *supra* Part I.C.

70. This is not to say that all legislation restricting inventors' rights in the name of national security can be justified. While the mere imposition of a secrecy order may be justifiable, the procedures used by the government must not be unduly burdensome. For a discussion of whether the mechanics of invention secrecy do in fact minimize the burdens on inventors, see *infra* Part III.

71. *Grant v. Raymond*, 31 U.S. (6 Pet.) 218, 242 (1832).

72. See H.R. REP. NO. 1540, *supra* note 9, at 7.

73. See discussion *supra* Part I.D.

74. See U.S. CONST. art. I, § 8, cl. 8.

The appropriate balance can be obtained by limiting peacetime invention secrecy only to inventions posing an imminent and likely threat to national security.⁷⁵

From its inception in 1917, invention secrecy was premised on the *fact or imminent* prospect of war. The Invention Secrecy Act of 1951 extended it in the expectation of a formal end to World War II hostilities, which would have unveiled existing secrecy orders, and the Korean conflict, which implied a need for new ones. Now, invention secrecy thrives on the presumption that war is not merely possible, but *likely*.⁷⁶

Historically, Congress has required a credible threat to national security—such as the *actual* threat or presence of war—to invoke the protections of a secrecy order.⁷⁷ A modern application of the statute should recognize that threats to national security can exist even in the absence of a threat of war. Therefore, by requiring an imminent and likely breach of national security for the issuance of a secrecy order, Congress can ensure that secrecy orders will be imposed only when absolutely necessary.

The Invention Secrecy Act as currently enacted lacks any such limitations. The Act only requires that “the publication or disclosure of the invention by the granting of a patent ... [would] be detrimental to the national security.”⁷⁸ Because the actual decision to issue a secrecy order lies in the discretion of the interested government agency, these agencies must be guided by precisely written legislation in order to correctly issue secrecy orders.⁷⁹ Congress should revise the statute to require a finding of an imminent and likely threat to security as a condition precedent.

III. THE MECHANICS OF INVENTION SECRECY

This part explores the decision-making process involved in imposing a secrecy order and the role of the government agency. This part also examines the remedies available to inventors, with an emphasis on how the government determines compensation. The part concludes with a discussion of the fairness of placing such burdens on inventors.

75. Support for a similar approach may be found in the First Amendment cases dealing with prior restraints. In such cases, infringement upon a First Amendment right by a prior restraint can only be justified when the disclosure creates direct, immediate, and irreparable harm. See discussion *infra* Part III.B.2.

76. See H.R. REP. NO. 1540, *supra* note 9, at 3 (emphasis added).

77. See discussion *supra* Part I.A.-C.

78. 35 U.S.C. § 181 para. 2 (1997). For a discussion of the standards used in imposing secrecy orders, see discussion *infra* Part II.A.

79. See discussion *infra* Part II.A.

A. Procedure for Issuing a Secrecy Order

The government's procedure for imposing a secrecy order depends in large part on whether or not the government holds a property interest in the invention:

The phrase 'property interest' is intended to include the ownership of all rights in the invention or to a lesser interest therein such as, for example, cases where the foreign rights are retained by the inventor, or where the Government is entitled only to the interest of one or more joint inventors, and not to the interest of all the joint inventors.⁸⁰

The 1980 Hearings defined a government property interest as including "inventions made by government employees either as part of their normal duties or on their own behalf, on which patent applications have been filed by the government," and "inventions made by government contractors during performance of their contractual duties."⁸¹ Under Executive Order 9424,⁸² all government-owned or government-controlled interests in patent applications are required to be registered in the Patent Office's Government Register.⁸³ Therefore, by referring to the register, it is easy to determine whether a government property interest exists. When the appropriate property interest is found, the issuance of a secrecy order is governed by the first paragraph of section 181 of the statute. When the government has no such property interest, secrecy orders are issued pursuant to paragraphs two and three of section 181.

1. WHEN THE GOVERNMENT HAS A PROPERTY INTEREST

The decision to issue the secrecy order falls within the discretion of the government agency having the interest in the invention. The statute's only limitation on this discretion is the requirement that the agency find that publication or disclosure of a patent "might" create a threat to the national security:

Whenever publication or disclosure by the grant of a patent on an invention in which the Government has a property interest might, in the opinion of the head of the interested Government agency, be detrimental to the national security, the Commissioner upon being so notified shall order that the invention be kept secret and shall

80. S. REP. NO. 1001, H.R. REP. NO. 1028, *supra* note 38, reprinted in 1952 U.S.C.A.N. at 1321.

81. *Hearings*, *supra* note 53, at 450 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense).

82. 3 C.F.R. 303 (1943-1948).

83. See 37 C.F.R. § 7.1(a) (1996).

withhold the grant of a patent therefor under the conditions set forth hereinafter.⁸⁴

Whether the information contained in an application is classified in part determines when disclosure might create a national security threat. For in-house government research, where the government agency files the patent application itself, a secrecy order may issue only if the application is properly classified under the provisions of Executive Order No. 12,065.⁸⁵ Applications classified under the above provisions are those which "reasonably could be expected to cause identifiable damage to the national security."⁸⁶ The government agency files the classified patent application in the Patent Office with security markings, thereby notifying the Patent Office to handle the application in accordance with appropriate security requirements.⁸⁷ The Patent Office then waits for the filing agency to request imposition of a secrecy order.⁸⁸

Applications relating to contractor research also receive secrecy orders if they contain classified information. If the contract is classified, the contractor must give a copy of the application to the government agency after filing the patent application.⁸⁹ Then the agency obtains the secrecy order.⁹⁰ Contractor patent applications containing classified material must contain security markings as in the case of government-filed applications. For contractor applications that do not contain classified material, a secrecy order does not issue unless the Patent Office feels that another government agency may be interested in the subject matter. If this is the case, the application is subject to the screening process used for inventions in which the government has no property interest.⁹¹

84. 35 U.S.C. § 181 para. 1 (1994).

85. See *Hearings*, *supra* note 53, at 451 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense); *id.* at 740 (Department of the Army, Office of the Judge Advocate General, Memorandum for the Record, Subject: Categories of secrecy order cases and related claims (Feb. 27. 1980)).

86. Exec. Order No. 12,065, 43 Fed. Reg. 28,949 (Section 1-104) (1978).

87. See *Hearings*, *supra* note 53, at 740 (Department of the Army, Office of the Judge Advocate General, Memorandum for the Record, Subject: Categories of secrecy order cases and related claims (Feb. 27. 1980)).

88. See *id.*

89. See *id.*

90. See *id.* at 741. In some cases the Patent Office may refer the application to the defense agencies before being notified to issue the secrecy order. In these cases the Patent Office will send an abbreviated disclosure to the agencies, calling the agency's attention to the existence of an application relating to a particular contract. See *id.*

91. See discussion *infra* Part III.B.2.a.

Once the agency decides to issue a secrecy order, it requests the Commissioner of Patents to impose the order.⁹² For defense agencies, this request is made by the Armed Services Patent Advisory Board (ASPAB), which acts as a clearinghouse for military patent applications.⁹³ Once ASPAB makes the request on behalf of the interested agency, the Commissioner of Patents must issue the secrecy order.⁹⁴

2. WHEN THE GOVERNMENT DOES NOT HAVE A PROPERTY INTEREST

With respect to those inventions in which the government does not have a property interest, the 1951 Act states:

Whenever the publication or disclosure of an invention by the granting of a patent, in which the Government does not have a property interest, might, in the opinion of the Commissioner, be detrimental to the national security, he shall make the application for patent in which such invention is disclosed available for inspection to the Atomic Energy Commission, the Secretary of Defense, and the chief officer of any other department or agency of the Government designated by the President as a defense agency of the United States.

....

If ... disclosure of the invention by the granting of a patent therefor would be detrimental to the national security, the Atomic Energy Commission, the Secretary of a Defense Department, or such other chief officer shall notify the Commissioner and the Commissioner shall order that the invention be kept secret and shall withhold the grant of a patent ... for such period as the national interest requires⁹⁵

The Patent Office plays a much larger role in the determination of invention secrecy where the government has no property interest in the invention. The decision to impose a secrecy order is a two-stage process, with the first stage taking place in the Patent Office and the second stage taking place in a particular government defense agency.

92. See Manual of Patent Examining Procedure § 115 (6th ed. 1996), at 100-09 [hereinafter MPEP] ("[f]or those applications in which the Government has a property interest, responsibility for notifying the Commissioner of the need for a Secrecy Order resides with the agency having that interest").

93. See *Hearings*, *supra* note 53, at 451 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense, before the Government Information and Individual Rights Subcommittee of the House Committee on Government Operations).

94. See 37 C.F.R. § 5.2(a) (1996).

95. 35 U.S.C. § 181 para. 2, 3 (1994).

a. Patent Office Procedure

All patent applications begin their prosecution in the Licensing and Review Branch of the Special Laws Administration Group,⁹⁶ also known as "the secret group" or "Group 220."⁹⁷ Here examiners categorize all applications as chemical, electrical, or mechanical inventions.⁹⁸ Then, examiners with appropriate security clearances and technical backgrounds inspect each patent application to determine if it contains "subject matter the disclosure of which might impact the national security"⁹⁹ Examiners screen applications not only for claimed subject matter but also for other matters, such as the incidental description of the use of the invention in the specification.¹⁰⁰ To aid in the determination, ASPAB, the Department of Energy, and the National Aeronautics and Space Administration (NASA) provide the Patent Office with guidelines.¹⁰¹

By far, the most important of these agency guidelines is ASPAB's Patent Security Category Review List.¹⁰² The ASPAB List consists of twenty-one categories of inventions, each containing specific items which are identified as being of current security interest to different defense agencies. The agencies identified in the ASPAB list are the Army, the Navy, the Air Force, the Atomic Energy Commission, NASA, and the National Security Agency.¹⁰³ Items contained on the list include military devices as well as items with commercial applications.¹⁰⁴ If subject matter in a patent application corresponds to an item on the list, the Patent Office informs the agency, which then can view the application.¹⁰⁵ The Department of Energy uses a similar type of list to aid in the Patent

96. See *Hearings*, *supra* note 53, at 2 (statement of Rene D. Tegtmeier, Assistant Commissioner for Patents, Patent and Trademark Office, Department of Commerce).

97. See H.R. REP. NO. 1540, *supra* note 9, at 17.

98. See *Hearings*, *supra* note 53, at 2-3 (statement of Rene D. Tegtmeier, Assistant Commissioner for Patents, Patent and Trademark Office, Department of Commerce).

99. MPEP § 115, at 100-10 (6th ed. 1996).

100. See *id.*

101. See *id.*

102. ARMED SERVICES PATENT ADVISORY BOARD, PATENT SECURITY CATEGORY REVIEW LIST (1971) [hereinafter ASPAB LIST]. The list was declassified in 1994 at the Freedom of Information Act request of Michael Ravnitzky. See *Aftergood*, *supra* note 8. About 3% of all patent applications fall into areas identified by the list. See *id.*

103. See ASPAB LIST.

104. See *id.*

105. See *Hearings*, *supra* note 53, at 12 (statement of Rene D. Tegtmeier, Assistant Commissioner for Patents, Patent and Trademark Office, Department of Commerce).

Office's examination. The Department of Energy Category Guide List relies on sections 151(c) and 152 of the Atomic Energy Act of 1954.¹⁰⁶

b. Defense Agency Procedure

The Patent Office forwards applications containing subject matter deemed a possible national security threat to the interested defense agencies. The inspection of applications by the agencies must be performed "only by responsible representatives authorized by the agency to review applications."¹⁰⁷ An agency's decision to impose a secrecy order is governed by the statutory standard that "the publication or disclosure of the invention by the granting of a patent ... *would be detrimental to the national security.*"¹⁰⁸ Because this is the only statutory restriction on the agency's discretion, the agency essentially is left to its own devices to make its decisions. Currently, military agencies impose secrecy orders on about five to ten percent of the applications they review.¹⁰⁹ After making its decision, an agency using the ASPAB List simply informs ASPAB that it wants a secrecy order, and ASPAB instructs the Commissioner of Patents and Trademarks to issue the order.¹¹⁰ Other nonmilitary agencies take it upon themselves to notify the Patent Office.¹¹¹

B. The Effect of a Secrecy Order

All secrecy order cases are examined for patentability like any other application.¹¹² When an application subject to a secrecy order is poised for allowance, the Patent Office issues a notice of allowability (Form D-10).¹¹³ This ends the prosecution of the application until the secrecy order is rescinded.¹¹⁴ Thus, even if the application is found to contain patentable subject matter, no patent will issue on the application until the government rescinds the secrecy order. Moreover, an interference will not be declared where one or more of the conflicting cases is classified or

106. Codified at 42 U.S.C. §§ 2181-82 (1994).

107. 37 C.F.R. § 5.1 (1996).

108. 35 U.S.C. § 181 para. 3 (1994) (emphasis added).

109. See Aftergood, *supra* note 8.

110. See *Hearings*, *supra* note 53, at 451 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense).

111. See MPEP § 115, at 100-09.

112. See *id.* § 130, at 100-14.

113. See *id.*

114. See *id.*

under secrecy order.¹¹⁵ In the case of a final rejection, an appeal before the Board of Patent Appeals and Interference will not be heard until the secrecy order is lifted, unless specifically ordered otherwise by the Commissioner.¹¹⁶

A secrecy order restricts disclosure of the invention or dissemination of information in the patent application.¹¹⁷ A secrecy order prevents the Commissioner of Patents from granting a patent on the application until the order is lifted.¹¹⁸ The Commissioner also orders "that the invention be kept secret"¹¹⁹ by sending the inventor a notice of the order. The notice instructs the inventor that "the subject matter or any material information relevant to this application, including unpublished details of the invention, shall not be published or disclosed to any person not aware of the invention prior to the date of this order, including any employee of the principals."¹²⁰

The particular type of secrecy order that issues determines the extent of the restraint on publication or disclosure. There are three possibilities. First, a "Secrecy Order and Permit for Foreign Filing in Certain Countries" applies to patent applications containing technical data whose export is controlled by guidelines established by the Department of Defense.¹²¹ These applications can be filed in certain countries with which the United States has reciprocal security agreements.¹²² The second type of secrecy order, known as a "Secrecy Order and Permit for Disclosing Classified Information," is appropriate where the patent application contains technical information that is properly classified or classifiable under a security guideline and where the owner has a security agreement with the Department of Defense.¹²³ These secrecy orders treat the information contained in the application like other classified material.¹²⁴ The third type of secrecy order is known

115. *See id.*

116. *See id.*

117. *See Hearings, supra* note 53, at 176 (letter from Sidney A. Diamond, Commissioner for Patents and Trademarks, U.S. Patent and Trademark Office, to Richard Preyer, Chairman, Government Information and Individual Rights Subcommittee of the Committee on Government Operations (May 3, 1980)).

118. *See* 35 U.S.C. § 181 para. 1, 3 (1994).

119. *Id.*

120. *Hearings, supra* note 53, at 128 (notice of secrecy order from Director, Special Laws Administration Group, Patent and Trademark Office).

121. *See* MPEP § 120, at 100-09.

122. *See id.* at 100-10.

123. *See id.* at 100-09.

124. *See id.* at 100-10.

simply as a "Secrecy Order" and is used where the technical information is properly classifiable and the patent application owner does not have a Department of Defense security agreement.¹²⁵ Secrecy orders generally apply whenever the other types of orders do not, and include orders issued by directors of agencies other than the Department of Defense.¹²⁶ These orders prohibit disclosure to anyone without express written consent from the Commissioner.¹²⁷

All secrecy orders expose an inventor to the penalty provisions for violation of the order. Should the inventor publish or disclose an invention subject to a secrecy order, or file for a patent on that invention in a foreign country without the consent of the Commissioner, the invention shall be held to be abandoned.¹²⁸ An inventor who, without due authorization, willfully publishes or discloses the invention, or who willfully files a foreign patent application, "shall, upon conviction, be fined not more than \$10,000 or imprisoned for not more than two years, or both."¹²⁹

A peacetime secrecy order lasts for only one year.¹³⁰ The government agency sponsoring the order may renew the order for additional periods of up to one year upon notice to the Patent Office "that an affirmative determination has been made that the national interest continues so to require."¹³¹ Thus, a secrecy order may continue indefinitely. A secrecy order ends either when it is not renewed, or when the Commissioner is notified by the sponsoring agency "that the publication or disclosure of the invention is no longer deemed detrimental to the national security."¹³² With respect to secrecy orders authorized by ASPAB in particular, the patent application must be circulated among ASPAB members for their individual consideration of whether the secrecy order should be rescinded.¹³³ Once a secrecy order is rescinded, the Patent Office issues a notice of allowance to the applicant.¹³⁴

125. *See id.* at 100-09.

126. *See id.* at 100-10.

127. *See id.* at 100-09. However, these secrecy orders often contain a "Permit A" which relaxes the disclosure restrictions. *See id.* at 100-10.

128. *See* 35 U.S.C. § 182 (1994).

129. 35 U.S.C. § 186 (1994).

130. *See* 35 U.S.C. § 181 para. 4 (1994).

131. *Id.*

132. *Id.*

133. *See Hearings, supra* note 53, at 458 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense).

134. *See* 37 C.F.R. § 5.3(c) (1996).

C. Inventors' Rights and Remedies Under the Act

An inventor under a secrecy order has two options. First, the inventor may attempt to contest the order as either erroneous or overly broad. Second, the inventor may apply for compensation under section 183 of the Act. The procedures used in pursuing these two options are discussed in detail below. Normally, only the private inventor will be interested in pursuing these options. For inventors whose inventions are controlled by the government, challenges to secrecy orders are rare because the government itself either owns the invention or is authorized to prevent publication of the classified information.¹³⁵ Further, the Invention Secrecy Act's compensation provisions prohibit compensation to persons "who, while in the full-time employment or service of the United States, discovered, invented, or developed the invention on which the claim is based."¹³⁶ Accordingly, the options discussed below primarily benefit the private inventor with no government affiliation.

1. CONTESTING THE ORDER OF SECRECY

An inventor who believes that an erroneous secrecy order has been issued has several options to seek rescission of the order. The Manual of Patent Examining Procedure recommends that the applicant directly contact the agency sponsoring the secrecy order to discuss what would render the secrecy order unnecessary.¹³⁷ Alternatively, the applicant may follow a more formalized procedure and petition the Commissioner of Patents for a rescission.¹³⁸ Such a petition "must recite any and all facts that purport to render the order ineffectual or futile if this is the basis of the petition."¹³⁹ Finally, the most formal method for the applicant is to appeal to the Secretary of Commerce to rescind the secrecy order.¹⁴⁰ An appeal cannot be made until a petition for rescission has been made and denied by the Commissioner, and must be taken within sixty days of the denial.¹⁴¹ The Secretary of Commerce, or officers designated by the Secretary, hear and decide the appeal.¹⁴²

135. See *Hearings*, *supra* note 53, at 741 (Department of the Army, Office of the Judge Advocate General, Memorandum for the Record, Subject: Categories of secrecy order cases and related claims (Feb. 27, 1980)).

136. 35 U.S.C. § 183 (1994).

137. See MPEP § 120, at 100-11 (6th ed. 1996).

138. See 37 C.F.R. § 5.4 (1996).

139. *Id.*

140. See 35 U.S.C. § 181 para. 3 (1994).

141. See 37 C.F.R. § 5.8 (1996).

142. See *id.*

Besides a rescission, the applicant may seek a permit to disclose or modify the order. This procedure is necessary to make disclosure of the contents of the application to certain categories of individuals or to file patent applications in foreign countries.¹⁴³ The government agencies review these requests and are likely to grant them where the country in which the applicant desires a foreign filing is obligated by agreement to maintain secrecy.¹⁴⁴

2. COMPENSATION

Compensation is the primary remedy for an inventor. The Invention Secrecy Act gives an inventor the right to "compensation for the damage caused by the order of secrecy and/or for the use of the invention by the Government, resulting from his disclosure."¹⁴⁵ For an inventor to qualify for compensation, the patent application must, except for the secrecy order, be in condition for allowance.¹⁴⁶

There are two ways in which an inventor may seek compensation under the Act. First, the claimant may immediately apply to the agency causing the order for a settlement agreement.¹⁴⁷ Such claims must be filed after the date of first use of the invention by the government.¹⁴⁸ If a settlement agreement cannot be reached, the head of the agency may award the applicant a sum not exceeding 75% of the amount the head of the agency deems fair.¹⁴⁹ The claimant then has the right to bring suit against the United States in the United States Court of Federal Claims or in the district court in which the claimant resides for an amount which when added to the settlement award will result in just compensation.¹⁵⁰ Even if no settlement amount is given, the claimant still may bring suit.¹⁵¹ The second method by which an inventor can obtain compensation is to wait for the secrecy order to expire and the patent to issue. Provided that the inventor did not apply for compensation under the first set of procedures described above, the inventor then can bring suit in the United States Court of Federal Claims.¹⁵²

143. See 37 C.F.R. § 5.5 (1996).

144. See *Hearings*, *supra* note 53, at 3 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense).

145. 35 U.S.C. § 183 (1994)

146. See *id.*

147. See *id.*

148. See *id.*

149. See *id.*

150. See *id.*

151. See *Robinson v. United States*, 236 F.2d 24, 26 (2d Cir. 1956).

152. See 35 U.S.C. § 183 (1994).

Under either of these methods, section 183 specifies that the inventor shall be entitled to "just compensation." Court determinations of what constitutes "just compensation" under section 183 are rare.¹⁵³ In *Constant v. United States (Constant I)*, the patentee Constant sought compensation in the Court of Claims for damages resulting from the imposition of a secrecy order on his invention for a method for encoding radar signals.¹⁵⁴ The court stated:

The Government erroneously urges that the only rights section 183 protects are the rights accorded by 35 U.S.C. § 154 to the patent grant—"the right to exclude others from making, using or selling the invention throughout the United States" The statute does not say that its provisions are confined to that precise area, and its language as to compensation has much wider and more general phrasing. The core of the legislation is recovery of all "damage caused by the order of secrecy and/or for the use of the invention by the Government."¹⁵⁵

The court recognized that even though the statute employs the term "just compensation," compensation should not be limited to an eminent domain theory.¹⁵⁶ *Constant I* therefore encourages liberal awards of compensation under section 183.

For claims of damages based solely on the order of secrecy, courts consider a wide range of factors. In *Constant I*, the patentee only sought compensation for damages caused by the issuance of the secrecy order and not for any use by the government. This secrecy order never actually affected the issuance of Constant's patent, because it was issued and removed before the patent application was even determined to be allowable.¹⁵⁷ Constant alleged that because of the secrecy order: (1) he was unable to obtain loans necessary for the development of his invention, (2) he lost prospective users and licensees for his invention because he could not demonstrate that his invention represented a superior technology in the field, and (3) he expended substantial

153. Compensation for government infringement of patents may also be relevant to this determination. An inventor may sue the government for infringement of a patent under the provisions of 28 U.S.C. § 1498 for reasonable and entire compensation. See 28 U.S.C. § 1498(a) (1994). Section 183 of the Invention Secrecy Act implicitly recognizes the similarities in the two types of compensation by stating: "In a suit under the provisions of this section the United States may avail itself of all defenses it may plead in an action under section 1498 of title 28." 35 U.S.C. § 183 (1994). For a discussion of damages for government infringement, see *infra* text accompanying notes 371-83.

154. *Constant v. United States (Constant I)* 617 F.2d 239, 239-44 (Ct. Cl. 1980).

155. *Id.* at 243 n.10.

156. See *id.* at 242.

157. See *id.*

attorneys' fees in attempts to have the secrecy order rescinded.¹⁵⁸ The court found that all of these damages could be compensable, provided that the loss is supported by "real concrete evidence of damage."¹⁵⁹ Because Constant failed to provide such evidence, however, no compensation was granted.¹⁶⁰

For claims based on use by the government, courts have awarded compensation on a reasonable royalty basis.¹⁶¹

In the determination of a reasonable royalty rate for the computation of a fair award of damages, such factors as the limited marketability of the product (thus requiring that the entire compensation be obtained from the Government) must be equated with assumption of risk in providing capital for the production of the invention and other similar variables (which factors would tend to depress the allowable royalty rate).¹⁶²

Thus, like the situation where damages are claimed only for the orders of secrecy, compensation for use by the government is based on a wide variety of factors that are often considered in conventional patent infringement cases. In both situations, claimants have the potential to recover substantial compensation awards. However, if damages are too speculative in either situation, courts may be reluctant to grant any compensation whatsoever.¹⁶³

D. Fairness Analysis

Having examined the mechanics of the Invention Secrecy Act, the analysis now turns to a discussion of whether the procedures used by the government are sufficiently fair to minimize the burdens placed on inventors.¹⁶⁴ The issue is addressed in three parts: (1) whether inventors are properly treated when issued a secrecy order, (2) whether the specific effects of a secrecy order are fair, and (3) whether inventors are given

158. See *id.* at 244.

159. *Id.*

160. See *Constant v. United States (Constant II)*, 1 Cl. Ct. 600, 609 (1982), *aff'd*, 714 F.2d 162 (Fed. Cir. 1983).

161. See *Farrand Optical Co. v. United States*, 197 F. Supp. 756, 773 (S.D.N.Y. 1961), *modified*, 325 U.S. 328 (2d Cir. 1963).

162. *Id.* at 777 n.2.

163. See *Constant II*, 1 Cl. Ct. at 609. A further discussion of the compensation issue is contained *infra* Part II.D.3. That part examines whether the requirement of proof of actual damages is fair to inventors whose inventions are suppressed by secrecy order.

164. The discussion in this part assumes that the provisions of the Act are constitutional. For a discussion of the Act's potential constitutional problems, see discussion *infra* Part III.

sufficient options to counter and obtain remedies for the issuance of a secrecy order.

1. THE DECISION TO ISSUE A SECRECY ORDER

The fairness of imposing a secrecy order on an invention depends on whether the decision-making process results in an erroneous secrecy order. In other words, has the appropriate agency applied the proper discretion in determining whether national interests require a secrecy order? When the government has a property interest in the invention, the only statutory limit on an agency's decisionmaking is the requirement that publication or disclosure by grant of the patent "*might* ... be detrimental to the national security."¹⁶⁵ The use of the term "*might*" is significant because it reflects a relatively low standard for the agency to satisfy in order to find a danger to national security. The statute essentially places no limitations on the discretion to issue the order. While this lack of congressional guidance may seem unfair to the individual inventor, it is important to remember that in this situation, the government agency holds the property interest in the invention, not the individual inventor. The inventor has virtually no expectation of any individual patent rights.

The more problematic situation arises in the application of secrecy orders to inventions in which the government does not have property interests. The statute imposes a higher standard, such that these inventions can be subject to secrecy order only if the government agency determines that their publication or disclosure "*would* be detrimental to the national security."¹⁶⁶ Since peacetime secrecy orders were first issued, the number of secrecy orders, especially with respect to private inventors, has steadily increased while the threat of war has arguably declined.¹⁶⁷ If the number of secrecy orders issued to private inventors continues to increase during peacetime, it may be necessary to enact a more stringent statutory standard to ensure that orders are issued only when absolutely necessary. Rewording the statute to require that a likely and imminent threat to national security exists for the issuance of a secrecy order would suffice to increase protection for private inventors.¹⁶⁸

165. 35 U.S.C. § 181 para. 1 (1994) (emphasis added).

166. 35 U.S.C. § 181 para. 3 (emphasis added).

167. See *supra* text accompanying notes 8-14; see also *Hearings*, *supra* note 53, at 453 (prepared statement of the Armed Services Patent Advisory Board (ASPAB), Department of Defense). In 1979, the Commissioner of Patents and Trademarks estimated that about 10-20% of secrecy orders were imposed on applications in which the government had no property interest. See *id.* at 455.

168. See discussion *supra* part II.A.

Congress should also prompt the agencies to establish more rigorous internal procedures to justify the issuance of all secrecy orders.

2. THE EFFECTS OF A SECRECY ORDER

Because invention secrecy reflects justifiable legislative policy,¹⁶⁹ its consequent preclusion of publication or disclosure of an invention does not in itself create an excessive burden on inventors. However, whether provisions regarding the duration of secrecy orders and penalties for their violation fail to minimize the burdens on inventors requires further analysis.

a. Secrecy Orders of Indefinite Duration

With respect to duration, the main problem is that a peacetime secrecy order, though one year in length, can be renewed indefinitely. A secrecy order of unspecified length creates tremendous burdens by depriving the inventor of opportunities to exploit the invention. In addition, an inventor whose invention is subjected to a secrecy order of indefinite duration receives very little notice as to when the invention might finally be available for commercialization.

In response, the government asserts that certain inventions create such a large threat to the national security that only a permanent secrecy order will suffice. The most common technology deemed to justify secrecy orders of extended duration is cryptology.¹⁷⁰ Several secrecy orders in effect during the 1980 Hearings covered cryptologic inventions made in the 1930s.¹⁷¹ Moreover, the government argues that the compensation under the Act provides inventors with an adequate remedy.¹⁷²

Imposing a higher standard on the determination of when national security requires invention secrecy would allow secrecy orders to issue when truly necessary and would limit the imposition of indefinite orders. This higher standard should be imposed on both the initial decision for a secrecy order and the subsequent review for renewal. The statute currently states that renewal should take place "upon notification by the head of the department or the chief officer of the agency who caused the order to be issued that an affirmative determination has been made that

169. See discussion *supra* part II.D.

170. For a general discussion of the problems of cryptology, see David Kahn, *Cryptology Goes Public*, FOREIGN AFF., Fall 1979, at 141; see also H.R. REP. NO. 1540, *supra* note 9, at 62-120.

171. See H.R. REP. NO. 1540, *supra* note 9, at 70.

172. For a discussion of whether the compensation provisions themselves are sufficient, see discussion *infra* Part III.D.3.

the national interest continues so to require."¹⁷³ The statute should be modified to emphasize that only inventions *continuing* to create a likely and imminent threat to the national security are eligible for renewal. By doing so, Congress can ensure that only those inventions with grave national security implications will remain under semi-permanent secrecy orders.

Second, Congress should consider the possibility of an additional type of secrecy order during peacetime. A *permanent* secrecy order may be appropriate to encompass those inventions that would always have national security implications, regardless of the presence of war. The benefit of a permanent secrecy order would be to inform inventors that they will never have any chance to exploit their invention, so they can try to sell it to the government or obtain compensation under the Act for the government's use. This proposal would also eliminate the administrative hassle of having to renew these secrecy orders every year. However, this type of secrecy order must only apply to those inventions having major national security implications.

b. Extension Period for Secrecy Orders

The GATT¹⁷⁴-related changes to the patent law create another problem with the potentially infinite duration of a secrecy order. Before GATT, once a secrecy order was removed from an otherwise allowable patent application, a patent would issue with a seventeen-year term from date of issuance. Even though patent issuance would be delayed while the secrecy order was in effect, inventors still retained the full length of their patent term. Under the newly revised section 154 of Title 35, a patent's term now ends twenty years from the date of filing.¹⁷⁵ This creates the problem that a secrecy order effectively shortens the length of the patent term.

Congress resolved this problem by allowing an extension, whereby the term of the issued patent may be extended for the period of the delay, but in no circumstances for more than five years.¹⁷⁶ By limiting the extension term to only five years, inventors issued with secrecy orders lasting longer than five years effectively lose time to exploit their patents. The legislative history of this revision does not explain why Congress chose this five-year period.¹⁷⁷

173. 35 U.S.C. § 181 para. 4 (1994).

174. General Agreement on Tariffs & Trade, Oct. 30, 1947, 61 Stat. A-11, T.I.A.S. 1700, 55 U.N.T.S. 194.

175. See 35 U.S.C. § 154(a)(2) (1994).

176. See 35 U.S.C. § 154(b)(1) (1994).

177. See S. REP. NO. 412, 103d Cong., 2d Sess. (1994).

The government may argue that although a secrecy order is in effect, the inventor still is able to plan for exploitation and further development of the invention during this time and therefore should not be unjustly enriched by a long extension period as well as the full term of the patent. This still does not address those inventors faced with secrecy orders that never end.¹⁷⁸ Nevertheless, because the legislative history offers no reasons for choosing a five-year period, Congress should either justify its use of only a five-year extension, or allow a further extension for secrecy orders lasting longer than five years.

c. The Penalty Provisions

A final point regarding the fairness of the effects of a secrecy order relates to the penalty provisions of the Act. The Act prohibits the violation of a secrecy order with provisions for abandonment, criminal fines, and possible imprisonment. An argument may be made that these provisions are too harsh and place an unjustifiable burden on inventors. Assuming these provisions are constitutional, they are appropriate and necessary for ensuring that secrecy orders will be obeyed, thereby fulfilling the legislative purpose of the Act.¹⁷⁹

3. THE FAIRNESS OF INVENTORS' REMEDIES

The final consideration in the fairness analysis is whether an inventor possesses sufficient remedies once a secrecy order is imposed. Fairness in this context is measured by the ease with which an inventor can contest the imposition of an erroneous secrecy order or obtain compensation for the imposition of a legitimate order.

a. The Availability of Review for Secrecy Order Decisions

The Act provides several options for an inventor to contest a secrecy order. These include appealing the order to the agency authorizing the order, to the Patent Office, or to the Secretary of Commerce.¹⁸⁰ The ability to appeal to the Secretary of Commerce is important because it allows the inventor to have his claim heard by a party completely unrelated to the issuance of the order. Given this

178. At the time of the 1980 Hearings, the longest secrecy order still in effect was issued in 1942 on a 1940 application. See H.R. REP. NO. 1540, *supra* note 9, at 165.

179. For a discussion of the First Amendment problems associated with these provisions, see discussion *infra* Part III.

180. See discussion *supra* Part III.C.1.

abundance of options, an inventor seems to have sufficient avenues to contest unjustified secrecy orders.¹⁸¹

What an inventor lacks is the ability to obtain judicial review. The Administrative Procedure Act (APA) provides that "[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof."¹⁸² Agency action generally must not be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."¹⁸³ With respect to military agency decisions in particular, review "must be extremely deferential because of the confluence of the narrow scope of review under the APA and the military setting."¹⁸⁴ Judicial review is not available when the "agency action is committed to agency discretion by law."¹⁸⁵ In *Webster v. Doe*,¹⁸⁶ the Court held that a provision of the National Security Act of 1947, giving the Director of the Central Intelligence Agency the discretion to terminate any officer or employee when deemed necessary or advisable in the interests of the United States, precluded judicial review under the APA because the statute clearly showed Congress' intent to commit individual employee discharges to the Director's discretion.¹⁸⁷ Similarly, the fact that Congress has firmly placed the decision to impose secrecy orders in the hands of the relevant military agencies indicates that judicial review should not be available for these agency decisions. Accordingly, an inventor forced to comply with a secrecy order is left to pursue only those remedies clearly defined by the statute.¹⁸⁸

b. The Availability of Compensation

The Invention Secrecy Act authorizes compensation for both "the damage caused by the order of secrecy and/or for the use of the invention by the Government, resulting from his disclosure," and provides several

181. A further discussion of the fairness of these procedures is contained in the procedural due process analysis, discussed *infra* Part III.C.1.

182. 5 U.S.C. § 702 (1994).

183. 5 U.S.C. § 706(2)(A) (1994).

184. *Henry v. United States Dept. of Navy*, 77 F.3d 271, 272 (8th Cir. 1996).

185. *See* 5 U.S.C. § 701(a)(2) (1994).

186. 486 U.S. 592 (1988).

187. *See id.* at 601.

188. Section 701(a)(2) of the APA does not automatically preclude judicial review of constitutional claims. The Court in *Webster* stated that Congress' intent to preclude judicial review of constitutional claims must be clear. *See id.* at 603. Absent such a clear intent, a petitioner may still bring claims challenging the constitutionality of agency action.

procedures by which the inventor obtains the statutory compensation.¹⁸⁹ In reality, awards for compensation have been exceedingly rare. The 1980 Report indicates that between 1945 and 1979, twenty-nine administrative claims for compensation were filed with the Department of Defense.¹⁹⁰ Of these twenty-nine, only nine claims led to the receipt of any amount of compensation.¹⁹¹ For every thousand secrecy orders requested by ASPAB, only one claim for compensation is filed.¹⁹² The 1980 Report points out that only those claimants "who are financially strong enough and persistent enough can collect eventually."¹⁹³

Two factors explain the difficulty in obtaining compensation. First, the requirement of actual damages, as discussed in *Constant I*, poses a major barrier to inventors' compensation.¹⁹⁴ Constant maintained that this requirement would "have a 'chilling effect' upon inventorship in this country, and, further, will render § 183 meaningless by making it a cause of action without a remedy."¹⁹⁵ Because it is inherently difficult to determine the market value of an invention having commercial potential when disclosure is barred by secrecy order,¹⁹⁶ government agencies may be inclined to minimize the compensation awarded to an inventor for a secrecy order.

Second, ASPAB officials continue to construe the Act in such a way that awards for secrecy order damage claims are not appropriate "where the invention was suppressed but not used by the Government and the Government was the sole intended market for the invention."¹⁹⁷ This construction directly contradicts the language of the statute which authorizes compensation awards for the damage caused by the order, without requiring any government use.¹⁹⁸ Again, the main problem is that these agencies have too much discretion to refuse to grant compensation:

Agencies can specify the form and content of an administrative claim, and may attempt to require by regulation nearly as much supporting evidence for the claim as they could expect to collect by

189. See 35 U.S.C. § 183 (1994); discussion *supra* Part III.C.2.

190. See H.R. REP. NO. 1540, *supra* note 9, at 6.

191. See *id.*

192. See *id.*

193. *Id.* at 8.

194. See *Constant v. United States*, 617 F.2d 239, 244 (Ct. Cl. 1980); *Constant v. United States*, 1 Cl. Ct. 600, 609 (1982), *aff'd*, 714 F.2d 162 (Fed. Cir. 1983).

195. *Supreme Court Asked to Review Intellectual Property Decisions*, 26 PATENT, TRADEMARK & COPYRIGHT J. 570 (1983).

196. See H.R. REP. NO. 1540, *supra* note 9, at 29.

197. *Id.* at 28.

198. See 35 U.S.C. § 183 (1994).

rule of discovery in a court of law. Agencies have little or no incentive to settle a claim.¹⁹⁹

Although a suit may be brought by an inventor in district court or the United States Court of Federal Claims,²⁰⁰ it is unfair to make an inventor resort to this more expensive and complex avenue when the claim could be settled satisfactorily at a lower level.

To remedy these problems, agencies should be encouraged to be flexible in determining a compensation award under section 183. The 1980 Report points out that the Internal Revenue Service's engineering and valuation branch is able to appraise patents and other property for gift and inheritance tax purposes.²⁰¹ Perhaps a better approach to estimating just compensation when there is little proof of actual damages should come from the provisions of the Atomic Energy Act of 1954. Section 154 of the Atomic Energy Act states: "No patent shall hereafter be granted for any invention or discovery which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon. Any patent granted for any such invention or discovery is revoked, and just compensation shall be made therefor."²⁰² This deprivation of a patent interest has a similar effect to the Invention Secrecy Act. Therefore, in practical terms, guidelines issued under the Atomic Energy Act for just compensation may be the most appropriate with respect to the present situation. To determine just compensation, the Atomic Energy Act establishes the following standards:

(1) In determining a reasonable royalty fee ..., the Commission shall take into consideration

(A) the advice of the Patent Compensation Board;

(B) any defense, general or special, that might be pleaded by a defendant in an action for infringement;

(C) the extent to which, if any, such patent was developed through federally financed research; and

(D) the degree of utility, novelty, and importance of the invention or discovery, and may consider the cost to the owner of the patent of developing such invention or discovery or acquiring such patent.

(2) In determining what constitutes just compensation as provided for in section 2181 of this title ... the Commission shall take into account the considerations set forth in paragraph (1) of this subsection and the actual use of such invention or discovery. Such

199. See H.R. REP. NO. 1540, *supra* note 9, at 7.

200. See 35 U.S.C. § 183 (1994).

201. See H.R. REP. NO. 1540, *supra* note 9, at 29 n.54.

202. 42 U.S.C. § 2181(a) (1994).

compensation may be paid by the Commission in periodic payments or in a lump sum.²⁰³

Case law that reviews the granting of just compensation under these provisions emphasizes that so long as an inventor retains some rights in the invention, it is inappropriate to deny compensation completely.²⁰⁴ Thus, any time the government does not hold a property interest in an invention, the inventor should recover compensation. Moreover, the Atomic Energy Act provisions do not require proof of actual damages for obtaining compensation. Rather, just compensation in some amount will always be due through consideration of the factors listed above.²⁰⁵

Incorporating these provisions of the Atomic Energy Act into the Invention Secrecy Act's compensation system creates a good solution to the problems discussed above. First, to determine a reasonable royalty for the imposition of a secrecy order, factors such as the degree of utility, novelty, and importance of the invention can be considered even without proof of actual damages. Congress should emphasize that compensation based on these factors can be granted even without use of the invention by the government. Second, to remedy the problem that government agencies receive too much discretion in making a determination of just compensation, the Invention Secrecy Act should follow the Atomic Energy Act's model and create a Patent Compensation Board.²⁰⁶ The use of a separate committee to determine just compensation ensures a fair and unbiased compensation determination.

IV. CONSTITUTIONAL QUESTIONS

The 1980 Hearings raised First and Fifth Amendment questions relating to the Act.²⁰⁷ A witness testifying for the Justice Department stated:

[I]t is perfectly true that any flat prohibition on private speech raises an issue under the First Amendment, but we are dealing here with a prohibition, § 186, that has never been tested. There has never been a prosecution under § 186. We have no judicial opinion to guide us. In advance of litigation, undisciplined by facts, the expression of views on the First Amendment issues that might be presented by a prosecution under this statute would be difficult in any event and would be either self-serving or prejudicial from the

203. 42 U.S.C. § 2187(c) (1994).

204. See *Hobbs v. United States*, 376 F.2d 488, 493 (5th Cir. 1967) (holding that even though the government had obtained shop rights in an invention, the inventor still retained rights in the invention which entitled him to some amount of just compensation).

205. See *id.*

206. See 42 U.S.C. § 2187(a) (1994).

207. See H.R. REP. NO. 1540, *supra* note 9, at 27.

standpoint of the Department's duty to enforce the statute. As regards the Fifth Amendment issues, I note simply that the statute provides both an administrative and a judicial remedy for damages caused by the secrecy procedure.²⁰⁸

This statement reflects an overall reluctance on the part of the government to confront the constitutional problems created by the Invention Secrecy Act. In fact, the constitutionality of the statute has never been tested.²⁰⁹ This part thus analyzes whether the provisions of the Invention Secrecy Act are constitutional under the First and Fifth Amendments.

A. Constitutional Authority for Invention Secrecy

Before exploring the potential constitutional violations under the First and Fifth Amendments, it is useful to identify the Congress' constitutional authority for invention secrecy. There are three possibilities. First, the Constitution empowers Congress to "provide for the common Defense and general Welfare of the United States."²¹⁰ Because invention secrecy is primarily directed toward protecting the national security, invention secrecy legislation is clearly authorized under this power.

Second, Congress has the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."²¹¹ This provision, which authorizes the creation of a patent system, does not grant inventors an absolute patent right. Rather, it gives Congress extremely broad discretion to decide how the patent system should be formulated. Invention secrecy can therefore simply be viewed as a legitimate part of the patent system's operation.

Third, the power of eminent domain may authorize the government statute. The Court has long recognized that the federal government may constitutionally take private property,²¹² provided that the taking is rationally related to a public purpose and just compensation is paid.²¹³

208. *Hearings, supra* note 53, at 252 (testimony of H. Miles Foy, Senior Attorney-Adviser, Office of Legal Counsel).

209. See H.R. REP. NO. 1540, *supra* note 9, at 2; U.S. CONG., OFFICE OF TECHNOLOGY ASSESSMENT, *Science, Technology, and the First Amendment*, OTA-CIT-369 (Jan. 1988) 48 [hereinafter *OTA Report*].

210. U.S. CONST. art. I, § 8, cl. 1.

211. U.S. CONST. art. I, § 8, cl. 8.

212. See *Kohl v. United States*, 91 U.S. 367, 372 (1875).

213. See *Hawaii Housing Auth. v. Midkiff*, 467 U.S. 229, 241 (1984). Although the Constitution does not explicitly recognize the power of eminent domain, the Supreme Court has interpreted the Fifth Amendment Takings Clause to be an implicit recognition of the

Whether the imposition of a secrecy order meets these requirements is the subject of the Takings Clause analysis below.²¹⁴ If these requirements are met, Congress' invention secrecy legislation can be viewed as an appropriate exercise of the government's eminent domain power.

There are inherent limits to Congress' power. "[T]he Constitution requires that the powers of government 'must be so exercised as not, in attaining a permissible end, unduly to infringe' a constitutionally protected freedom."²¹⁵ Although Congress may have created invention secrecy under legitimate constitutional authority, problems may still arise under other constitutional provisions. The Court has stated: "When Congress' exercise of one of its enumerated powers clashes with those individual liberties protected by the Bill of Rights, it is our 'delicate and difficult task' to determine whether the resulting restriction on freedom can be tolerated."²¹⁶ Because of the constitutional problems identified at the 1980 Hearings, the analysis that follows embarks on the "delicate and difficult task" of determining whether the liberties protected by the First and Fifth Amendments are unduly burdened by Congress' invention secrecy legislation.

B. First Amendment Analysis

Because it enables punishment for publication or disclosure of certain details of an invention, the Invention Secrecy Act²¹⁷ appears to directly violate the First Amendment's literal directive. The First Amendment states that "Congress shall make no law ... abridging the freedom of speech, or of the press"²¹⁸ These are not absolute

eminent domain power, which was specifically created as a check on the government's exercise of this power. *See Kohl*, 91 U.S. at 372.

214. *See* discussion *infra* Part III.C.2.

215. *Aptheker v. Secretary of State*, 378 U.S. 500, 509 (1964) (quoting *Cantwell v. Connecticut*, 310 U.S. 296, 304 (1940)). In *Aptheker*, the issue before the Court was the constitutionality of section 6 of the Subversive Activities Control Act of 1950, which made it a felony for members of a Communist organization to apply for, use or attempt to use a passport. *See id.* at 501-02. Despite the fact that the legislation was based on Congress' power to safeguard the national security, the Court held that that the evil Congress sought to control swept "too widely and too indiscriminately across the [right to travel] liberty guaranteed in the Fifth Amendment." *Id.* at 514.

216. *United States v. Robel*, 389 U.S. 258, 264 (1967) (holding a section of the Subversive Activities Control Act making it unlawful for a member of a Communist-action organization to engage in any employment in any defense facility unconstitutional because it proscribes rights of association protected by the First Amendment).

217. *See* 35 U.S.C. §§ 181, 182, 186 (1994).

218. U.S. CONST. amend. I.

freedoms. However, certain types of speech receive less protection than others. In certain circumstances the government may also restrict the freedom of speech or the press.²¹⁹ For these reasons, the constitutionality of invention secrecy depends on the specific degree of First Amendment protection given to expression restricted by the Act, as well as the nature and reasons for the government regulations placed on the expression.

The following discussion consists of three parts. The first part discusses the general issue of protection, analyzing how the First Amendment protects the type of expression proscribed by the Invention Secrecy Act. The second and third parts examine whether the government restrictions created by the Act can overcome the protection granted by the First Amendment, so as to render these restrictions constitutional. In particular, the second part discusses the constitutionality of the apparent system of prior restraints created by the imposition of secrecy on an invention. In the case that no prior restraints are created by the Act, the third part considers whether the Act's penalty provisions are constitutional as subsequent punishments.²²⁰

1. FIRST AMENDMENT PROTECTION OF SCIENTIFIC EXPRESSION

In order to determine the degree of First Amendment protection appropriate for expression proscribed by the Act, it is first necessary to ascertain the type of expression at issue. The purpose of a secrecy order is to prevent an inventor from publishing or disclosing any material information relating to certain patent applications or their subject matter.²²¹ Accordingly, the analysis that follows involves two inquiries: (1) how does the First Amendment protect scientific expression in general, and (2) considering the nature of the expression proscribed by the Act, does the First Amendment recognize any exceptions that would permit a finding that this particular expression is unprotected?

219. See *OTA Report*, *supra* note 209, at 38.

220. Remember that protection under the First Amendment is a technical term, determinative mainly of the level of scrutiny to be applied to restrictions imposed on the expression. Further, whether speech is classified as protected or not is only of consequence in a subsequent punishment analysis, and not in a prior restraint analysis. Despite the apparent irrelevance of the protection issue to prior restraints, the discussion of protection precedes the prior restraint analysis in order to emphasize the constitutional importance of scientific expression and to provide background in the form of several national security-related cases that are discussed in the context of First Amendment protection.

221. See *supra* text accompanying notes 117-20.

a. Protecting Scientific Expression in General

The expression of scientific information has historically never received explicit First Amendment protection. However, the Founding Fathers did recognize that science and technology were important areas deserving attention and support.²²² Many of the Founding Fathers, including James Madison, Benjamin Franklin, and Alexander Hamilton, were well-educated in science and technology, and understood the importance of scientific freedom.²²³ Therefore, when the first ten amendments were added to the Constitution in 1791, scientific freedom was presumed to be included under the First Amendment's broad protections for speech and the press.²²⁴

A few constitutional scholars have argued that the original purpose of the First Amendment separation of church and state was to give scientific activity or communications the special status given to political comment.²²⁵ This is a minority view, and it has often been argued that scientific expression is less important than political speech because it does not advance the same types of governmental reform ideas.²²⁶ Although scientific information does not contribute to the marketplace of ideas in the same manner as political speech, it does have a significant impact on the free flow of ideas. The importance of scientific speech lies in its factual nature. Facts form the basis of discussion, and discussion of ideas is one of the most important of all First Amendment goals.²²⁷ In addition, technical information is important to informed political debate on a wide range of issues. "Society must collectively participate in evaluating and debating each new technology. If sound policy is to result, technical information is essential in the debate."²²⁸ Furthermore, the free dissemination of all types of scientific information reduces the appearance of government secrecy, and results in greater public trust of political decision-making regarding technology and related issues.²²⁹ Greater public awareness and understanding that arises from the

222. See *OTA Report*, *supra* note 209, at 37.

223. See *id.*

224. See *id.*

225. See Steven Goldberg, *The Constitutional Status of American Science*, 1979 U. ILL. L.F. at 1-6.

226. See *OTA Report*, *supra* note 209, at 37.

227. See generally *Abrams v. United States*, 250 U.S. 616, 630 (Holmes, J., dissenting).

228. A. DeVOLPI ET AL., *BORN SECRET: THE H-BOMB, THE PROGRESSIVE CASE, AND NATIONAL SECURITY* 12 (1981).

229. See *id.* at 5.

dissemination of technology creates better-informed discussions regarding how the government should control technology.²³⁰

The free dissemination of scientific information furthers the constitutional goal of promoting the progress of the useful arts. For instance, scientists require a free flow of scientific information in order to conduct their research effectively:

A fundamental tenet of scientific methodology is that basic scientific research results or new scientific theories should be published, widely disseminated, and thoroughly argued, and the results replicated. In part this is in order to share knowledge with other scientists for the benefit of people in general. More immediately, it provides a test and means of validation.²³¹

Better scientific research leads to technological advancements that benefit the public. Patents are particularly effective in disseminating scientific information because they provide thorough descriptions of how inventions are made and how they can best be implemented.²³² "The biggest contribution the patent system makes to progress is to induce a steady flow of contributions and to secure their continuous disclosure."²³³ Because scientific expression serves important constitutional goals, the fact that it arguably carries less political significance than other forms of expression does not mean that it deserves less protection by the First Amendment.

b. Exceptions to First Amendment Protection

The Court has recognized only a few specific categories of speech that deserve a lesser degree of First Amendment protection.²³⁴ For example, the Court has held that advocacy of imminent illegal conduct, fighting words, and obscenity are unprotected by the First Amendment.²³⁵ The Court has also recognized intermediate categories deserving of lesser protection, including commercial speech, near obscene and offensive

230. See *id.* at 12; see also *Bernstein v. United States Department of State*, 922 F. Supp. 1426, 1436 n.17 (N.D. Cal. 1996) (holding that source code is protected speech deserving of a high degree of constitutional protection); but see *United States v. The Progressive, Inc.*, 467 F. Supp. 990, 994 (W.D. Wis. 1979) ("this Court can find no plausible reason why the public needs to know the technical details about hydrogen bomb construction to carry on an informed debate on this issue"), discussed *infra* part III.B.3.

231. *OTA Report*, *supra* note 209, at 38.

232. See 35 U.S.C. § 112 (1994).

233. *In re Nelson and Shabica*, 280 F.2d 172, 182 (C.C.P.A. 1960).

234. See, e.g., *Chaplinsky v. New Hampshire*, 315 U.S. 568, 571-72 (1942).

235. See generally LAURENCE H. TRIBE, *AMERICAN CONSTITUTIONAL LAW* §§ 12-9 to 12-17, at 841-928 (2d ed. 1988).

speech, and defamation.²³⁶ General scientific expression does not fall into any of these categories, and therefore, should remain protected under the First Amendment despite its arguably nonpolitical nature.²³⁷

The government may argue that because of the national security implications of inventions issued with secrecy orders, any expression relating to these inventions falls within the exception for the advocacy of illegal action. This argument is not based on the allegation that scientific expression constitutes advocacy, but rather on the fact that many of the cases discussing the advocacy exception rely on national security as the primary justification for leaving certain types of speech unprotected. In other words, the government would argue for a *national security* exception to First Amendment protection. An analysis of the relevant cases will demonstrate that there are important limitations on when national security interest can justify a deprivation of First Amendment protection.

i. The Clear and Present Danger Test

The government's most compelling arguments that certain types of scientific speech may be unprotected by the First Amendment derive from case law from the World War I period. Several cases at that time were concerned with the advocacy of action which would be detrimental to the war effort. For instance, in *Schenck v. United States*,²³⁸ the Court considered the conviction of Schenck, who had mailed documents contesting the constitutionality of the draft and encouraged those drafted to assert their opposition.²³⁹ The government charged Schenck with attempting to cause insubordination in the armed forces and to obstruct

236. See *id.* § 12-18, at 928.

237. One commentator has argued that the expression contained in a patent application should be classified as commercial speech, because a patent protects an inventor's rights while he is selling his invention for profit. See Lee Ann Gilbert, *Patent Secrecy Orders: The Unconstitutionality of Interference in Civilian Cryptography Under Present Procedures*, 22 SANTA CLARA L. REV. 358-61 (1982). However, this analysis was used only as a "worst case" scenario to demonstrate that even under a lower standard of protection, the Invention Secrecy Act would still be found unconstitutional. Besides, the connection between scientific expression and commercial speech is tenuous at best, for the reason that commercial speech has generally been interpreted to cover only activities akin to advertising. See, e.g., *Central Hudson Gas v. Public Service Comm'n*, 447 U.S. 557 (1980).

238. *Schenck v. United States*, 249 U.S. 47 (1919).

239. See *id.* at 51. The document contained statements such as: "Do not submit to intimidation"; "If you do not assert and support your rights, you are helping to deny or disparage rights which it is the solemn duty of all citizens and residents of the United States to retain"; and "You must do your share to maintain, support and uphold the rights of the people of this country." *Id.*

the recruiting and enlistment service of the United States in violation of the Espionage Act of June 15, 1917.²⁴⁰ The Court, per Justice Holmes, held that Schenck's speech was unprotected by the First Amendment.²⁴¹ To determine when speech should be protected, the Court should ascertain "whether the words used are used in such circumstances and are of such a nature as to create a *clear and present danger* that they will bring about the substantive evils that Congress has a right to prevent."²⁴² Because Schenck's speech constituted a clear and present danger, it was not protected by the First Amendment.²⁴³

Despite the fact that *Schenck* involved the advocacy of illegal action, the clear and present danger test, as formulated by Justice Holmes, did not require that there be an intent on the part of the speaker to bring about any particular sort of action. Rather, "[i]t is only the present danger of immediate evil *or* an intent to bring it about that warrants Congress in setting a limit to the expression of opinion where private rights are not concerned."²⁴⁴ In other words, speech could be found to be unprotected merely because it creates an immediate danger to national security.²⁴⁵ Thus, the government may argue that certain types of scientific information, especially information relating to military technology, may give an enemy such an advantage as to create an immediate danger to the United States' security.

However, this sort of threat only may be considered imminent during times of war. "When a nation is at war many things that might be said in time of peace are such a hindrance to its effort that their utterance will not be endured so long as men fight and that no Court could regard them as protected by any constitutional right."²⁴⁶ For the government to succeed on its argument, it faces the difficult burden of proving during

240. *See id.* at 49.

241. *See id.* at 52.

242. *Id.*

243. For additional opinions by Justice Holmes regarding the clear and present danger test, see *Frohwerk v. United States*, 249 U.S. 204 (1919); *see generally*, *Debs v. United States*, 249 U.S. 211 (1919).

244. *Abrams v. United States*, 250 U.S. 616, 628 (1919) (Holmes, J., dissenting) (emphasis added).

245. This is not to say that the Court would never consider the intent of the speaker. *See Debs v. United States*, 249 U.S. 211 (1919) (jury was instructed that they could not find defendant guilty unless the words had as their natural tendency and reasonably probable effect to obstruct the recruiting service and unless the defendant had the specific intent to do so in mind). The intent of the speaker need not be examined if there was an immediate danger.

246. *Schenck*, 249 U.S. at 52.

peacetime that the danger created by the expression is so imminent that such expression should be proscribed to protect the country's national security.²⁴⁷

Since *Schenck*, the Court has reformulated its standard for determining when First Amendment protections should be curtailed for the sake of national security. In *Dennis v. United States*,²⁴⁸ the Court purported to apply the clear and present danger test in determining whether to uphold the convictions of defendants for violation of the conspiracy provisions of the Smith Act. The standard used by the Court, however, focused more on the nature of the evil than did the standard articulated by Justice Holmes: "In each case [courts] must ask whether the gravity of the 'evil,' discounted by its improbability, justifies such invasion of free speech as is necessary to avoid the danger."²⁴⁹ Under this interpretation, if the gravity of the evil is great enough, First Amendment protection can be withheld, even if the evil is not imminent. This interpretation of the clear and present danger test lends greater support to the government's argument for less protection for security-related scientific information. By removing the requirement of imminence and focusing on the gravity of the danger, the government can emphasize that the evil created by the potential publication of certain inventions justifies depriving the inventor of First Amendment protection.

ii. The Modern Advocacy Standard

Despite the force of the government's arguments based on both *Schenck* and *Dennis*, under modern Supreme Court holdings the expression at issue in a patent application probably still would be protected. The Court in *Brandenburg v. Ohio*²⁵⁰ established a much more stringent test for when speech would be unprotected. In considering the constitutionality of the Ohio Criminal Syndicalism Act, which proscribed the advocacy of violence as a means of accomplishing industrial or political reform, the Court held that the State may proscribe such advocacy only where the advocacy "is directed to inciting or producing imminent lawless action and is likely to incite or produce such action."²⁵¹ Under this newly

247. For an argument that in certain situations scientific expression can satisfy an "imminence" test, see *United States v. The Progressive, Inc.*, 467 F. Supp. 990, 996 (W.D. Wis. 1979) (holding that publication teaching how to make a hydrogen bomb does create a threat of direct, immediate, and irreparable injury), discussed *infra* text accompanying notes 286-88.

248. *Dennis v. United States*, 341 U.S. 494 (1951).

249. *Id.* at 510 (citing *Dennis v. United States*, 183 F.2d 201, 212 (1950) (L. Hand, C.J.)).

250. 395 U.S. 444 (1969).

251. *Id.* at 447.

articulated standard, the Court struck down the Ohio statute because it failed to distinguish mere advocacy, which is protected, from incitement to imminent lawless action, which is not.²⁵²

Using the *Brandenburg* standard, the scientific information contained in patent applications will be unprotected only if it: (1) is directed to producing imminent lawless action, and (2) is likely to produce such action. Unlike previous conceptions by the Court, the test looks not only to the effect of the speech, but to the *intent* of the speaker as well. It is highly unlikely that information contained in a patent application carries an intent to produce any sort of illegal action. Further, a peacetime violation of an order is unlikely to promote imminent lawless action. For these reasons, scientific information contained in patent applications will rarely satisfy the first prong of the *Brandenburg* standard, and therefore, this speech should remain protected.

The government may attempt to argue that the *Brandenburg* test only applies to advocacy, and does not apply to scientific expression which does not purport to advocate anything. The government would then argue for a return to the more favorable *Dennis* test which does not require any intent on the part of the speaker. This interpretation fails to consider case law subsequent to *Brandenburg* which indicates that its test should not only apply to advocacy, but to expression in general.²⁵³ Moreover, *Brandenburg* clearly evidences the Court's intent to dismiss the "gravity of the evil" test used in *Dennis* in favor of a test considering the *likelihood* of imminent, lawless action. Accordingly, the *Dennis* test no longer should be applied to determine whether speech is unprotected.²⁵⁴

c. Summary of First Amendment Protection

Scientific expression was meant to be protected by the First Amendment. Scientific expression of the type proscribed by the Invention Secrecy Act is not unprotected under the modern standard of *Brandenburg* because the expression is not directed to imminent lawless action. It is important to remember that a finding of protected or unprotected speech is merely the first step in the First Amendment analysis. The national security interest may still be considered even after a finding that speech is protected. For prior restraints, this interest is

252. See *id.* at 448-49.

253. See *Texas v. Johnson*, 491 U.S. 397, 409 (1989) (defining the *Brandenburg* test in terms of "expression," not advocacy).

254. *Dennis* can still be applied in other contexts, such as in considering whether the presumption against prior restraints can be overcome. See *Nebraska Press Ass'n v. Stuart*, 427 U.S. 539 (1976), discussed *infra* note 298.

considered regardless of whether speech is protected.²⁵⁵ For subsequent punishments, this interest is considered in the context of determining whether strict scrutiny can be satisfied.²⁵⁶

2. THE CONSTITUTIONALITY OF THE APPARENT SYSTEM OF PRIOR RESTRAINTS CREATED BY INVENTION SECRECY

The most significant type of government restriction authorized by the Invention Secrecy Act is the apparent system of prior restraints created by the imposition of a secrecy order. The term prior restraint is used "to describe administrative and judicial orders forbidding certain communications when issued in advance of the time that such communications are to occur."²⁵⁷ Regardless of whether or not the speech is protected, such restrictions have been strongly disfavored by the Supreme Court: "In determining the extent of the constitutional protection, it has been generally, if not universally, considered that it is the chief purpose of the guaranty to prevent previous restraints upon publication."²⁵⁸ Because of this strong policy against prior restraints, the government bears a heavy burden of showing justification for the imposition of a system of prior restraints.²⁵⁹ Courts consider two issues: (1) whether invention secrecy establishes a system of prior restraints, and (2) if so, whether the presumption of invalidity against such a system can be overcome.²⁶⁰

a. Does the Invention Secrecy Act Create a Prior Restraint?

The initial consideration is whether the imposition of a secrecy order creates a system of "prior restraints" as that term has been interpreted by the Court. Generally, the two types of prior restraints recognized by the

255. See discussion *infra* Part III.B.2.b.

256. See discussion *infra* Part III.B.3.

257. *Alexander v. United States*, 509 U.S. 544, 550 (1993) (citation omitted).

258. *Near v. Minnesota*, 283 U.S. 697, 713 (1931) (holding that a statute providing for the abatement, as a public nuisance, of a malicious, scandalous and defamatory periodical was an unconstitutional restraint on publication).

259. See *New York Times Co. v. United States*, 403 U.S. 713, 714 (1971) (*per curiam*) (citations omitted).

260. Note that this analysis will only apply to private inventors. The Court has repeatedly held that where an individual is in a position of trust with the government, an injunction against dissemination by that person may be appropriate even without proof of a substantial danger. See *Hearings, supra* note 53, at 246 (testimony of H. Miles Foy, Senior Attorney-Adviser, Office of Legal Counsel).

Court are licensing schemes²⁶¹ and government orders or injunctions.²⁶² The Invention Secrecy Act creates both.

First, the Act requires that all patent applications be screened by the Secret Group of the Patent Office.²⁶³ This censorship process allows the government to decide which patents will be disclosed to the public before any publication takes place. Thus, the Invention Secrecy Act operates like a licensing scheme by determining in advance which patents are worthy of publication.

Second, a secrecy order is a government order restraining publication. The order prevents the Commissioner of Patents from publishing the patent, and it restrains the individual inventor from publishing or disclosing any material information contained in the application. The statute explicitly authorizes the Commissioner of Patents to order that an "invention be kept secret."²⁶⁴ The following is an example of such an order taken from the 1980 Hearings:

You are hereby notified that your application as above identified has been found to contain subject matter, the unauthorized disclosure of which might be detrimental to the national security, and *you are ordered in nowise to publish or disclose the invention or any material information with respect thereto*, including hitherto unpublished details of the subject matter of said application, in any way to any person not cognizant of the invention prior to the date of the order, including any employee of the principals, but to keep the same secret except by written consent first obtained of the Commissioner of Patents and Trademarks, under the penalties of 35 U.S.C. (1952) 182, 186.²⁶⁵

Inventors receive an actual order from the government to refrain from publication or disclosure. The Code of Federal Regulations recognizes that inventors are the ultimate recipients of secrecy orders, stating that "[t]he secrecy order is directed to the applicant, his successors, any and all assignees, and their legal representatives."²⁶⁶ Accordingly, it is implicit in the operation of invention secrecy that a secrecy order creates a prior restraint on inventors' individual expression.

To dispute these findings, the government may argue that because a secrecy order is not directed toward any pre-planned publication or disclosure by the inventor, it cannot create a prior restraint. Before the government issues a secrecy order it may not yet have asserted a specific

261. See, e.g., *Freedman v. Maryland*, 380 U.S. 51 (1965).

262. See, e.g., *Near v. Minnesota*, 283 U.S. 697 (1931).

263. See discussion *supra* Part III.A.

264. 35 U.S.C. § 181 para. 1, 3 (1994).

265. *Hearings*, *supra* note 53, at 126 (notice of secrecy order from Director, Special Laws Administration Group, Patent and Trademark Office) (emphasis added).

266. 37 C.F.R. § 5.2 (1996).

intent to publish or disclose the contents of the inventor's application.²⁶⁷ Therefore, a secrecy order does not prohibit the inventor from taking any particular action of which the government is already aware. Rather, a secrecy order is more like a subsequent punishment in that its penalties come into play *only if* an inventor decides to publish or disclose the inventor's invention. If the inventor already has decided not to publish or disclose, the inventor can never be restrained by the secrecy order.

A secrecy order is also like a subsequent punishment in that the punishment for its violation comes solely from the statute. Specifically, violations of a secrecy order are punishable only by the provisions of section 182 and 186 of the Act. Secrecy orders are therefore unlike the typical prior restraints of court injunctions or temporary restraining orders which are punishable by contempt proceedings.

The line between prior restraints and subsequent punishments is not always easy to draw. To resolve the issue in the present case, it is necessary to return to the policy underlying the doctrine against prior restraints: "The special vice of a prior restraint is that communication will be suppressed, either directly or by inducing excessive caution in the speaker, before an adequate determination [has been made] that it is unprotected by the First Amendment."²⁶⁸ Regardless of whether an inventor actually plans to publish or disclose any information, a secrecy order chills the ability to express this information. A prior restraint can be distinguished from a subsequent punishment by its particular effect of suppressing expression. For instance, the Court in *Near v. Minnesota*, in finding an injunction authorized by a nuisance statute to be an unconstitutional prior restraint, emphasized that "[t]he object of the statute is not punishment, in the ordinary sense, but suppression"²⁶⁹ Similarly, although the Invention Secrecy Act *punishes* inventors for publishing or disclosing certain information, the primary purpose of the statute is to *suppress* information. Therefore, secrecy orders create prior restraints on expression.

267. Inventors do, however, have the expectation that their issued patents will be printed by the Patent Office. This publication cannot be considered individual expression, nor can inventors assert a mandatory right to the publication, because the Commissioner alone possesses the discretion to decide whether patents should be published or not. See 35 U.S.C. § 11 (1994) ("[t]he Commissioner *may* print, or cause to be printed ... [p]atents, including specifications and drawings, together with copies of the same") (emphasis added).

268. *Pittsburgh Press Co. v. Pittsburgh Comm'n on Human Relations*, 413 U.S. 376, 390 (1972).

269. *Near v. Minnesota*, 283 U.S. 697, 711 (1931).

b. Can the Interest in Protecting National Security Overcome the Heavy Burden Against Prior Restraints?

Once a prior restraint has been identified, the government must meet a heavy burden to justify it.²⁷⁰ This burden may be overcome only under exceptional circumstances, such as when the nation is at war, when publication of obscene materials is threatened, or when one incites acts of violence or the forceful overthrow of the government.²⁷¹ The following analysis examines when a national security interest—such as the one at the heart of the Invention Secrecy Act—may be used to overcome the presumption of invalidity of a prior restraint.

i. The New York Times Test

In *New York Times Co. v. United States*,²⁷² the United States sought to enjoin the New York Times and the Washington Post from publishing the contents of a classified study entitled the "History of U.S. Decision-Making Process on Vietnam Policy."²⁷³ The Court, by a 6-3 vote, held *per curiam* that the government failed to meet its burden to justify the restraint.²⁷⁴ Although the Court did not reach a majority rule, the concurring opinions of five of the Justices reflect the Court's overall reluctance to use a national security interest to justify a prior restraint.²⁷⁵

Two of the Justices in *New York Times* supported the view that prior restraints are always unconstitutional. Justice Black stated:

The guarding of military and diplomatic secrets at the expense of informed representative government provides no real security for our Republic. The Framers of the First Amendment, fully aware of both the need to defend a new nation and the abuses of the English and Colonial Governments, sought to give this new society strength and security by providing that freedom of speech, press, religion, and assembly should not be abridged.²⁷⁶

Justice Douglas' opinion was similar in tone to Justice Black's opinion: "Secrecy in government is fundamentally anti-democratic, perpetuating bureaucratic errors. Open debate and discussion of public issues are vital

270. See *New York Times Co. v. United States*, 403 U.S. 713, 714 (1974) (*per curiam*) (citations omitted).

271. See *Near v. Minnesota*, 283 U.S. at 716 (citations omitted).

272. 403 U.S. 713 (1974).

273. *Id.* at 714.

274. See *id.*

275. Justice Marshall also concurred in the decision, but focused on a separation of powers rationale rather a First Amendment analysis in reaching his decision. See *id.* at 740-41 (Marshall, J., concurring).

276. *Id.* at 719 (Black, J., concurring).

to our national health. On public questions there should be 'uninhibited, robust, and wide-open' debate."²⁷⁷

In contrast to Justice Black's and Justice Douglas' absolute prohibition of prior restraints, Justices Brennan, Stewart and White took a more moderate approach to the justification of prior restraints. These Justices recognized that prior restraints are highly disfavored, but in limited circumstances national security may overcome the presumption of invalidity. Justice Brennan stated that "publication must inevitably, directly, and immediately cause the occurrence of an event kindred to imperiling the safety of a transport already at sea"²⁷⁸ Similarly, Justices Stewart and White refused to allow the prior restraint because the publication would not "surely result in direct, immediate, and irreparable damage to our Nation or its people."²⁷⁹ Thus, because the article at issue did not create a sufficient danger to national security, the Court found the prior restraint invalid.

Given the manner in which the votes were distributed in the *New York Times* case, it appears that the standard used should at least be that supported by Justices Brennan, Stewart and White.²⁸⁰ Under this standard, during peacetime most inventions subject to secrecy order do not create "direct, immediate, and irreparable damage" to national security. Although it is conceivable that a few inventions may cause such damage,²⁸¹ even the most critical military inventions would rarely create *direct, immediate and irreparable* damage. Therefore, secrecy orders as applied to these inventions should be unconstitutional.

ii. The Effect of the *Progressive* Decision

Although no Supreme Court case discusses the constitutionality of a restraint on scientific information, one lower court decision has addressed many issues similar to those raised under the Invention Secrecy Act. In *United States v. Progressive, Inc.*, Progressive planned to publish an article entitled "The H-Bomb Secret: How We Got It, Why We're Telling It."²⁸² This article described the operation of a hydrogen bomb.²⁸³ The government's fear was that publication of the article could give a foreign country information that would accelerate its creation of an atomic bomb.

277. *Id.* at 724 (Douglas, J., concurring).

278. *Id.* at 726-27 (Brennan, J., concurring).

279. *Id.* at 730 (Stewart, J., joined by White, J., concurring) (emphasis added).

280. This standard is appropriate because Justices Black and Douglas supported an even harsher rule against prior restraints.

281. See *supra* text accompanying notes 286-88.

282. 467 F. Supp. 990, 998 (W.D. Wis. 1979).

283. See *id.*

It sought a preliminary injunction against publication, communication, or disclosure of any restricted data contained in the article.²⁸⁴ In granting the injunction, the court stated:

In view of the showing of harm made by the United States, a preliminary injunction would be warranted even in the absence of statutory authorization because of the existence of the likelihood of direct, immediate and irreparable injury to our nation and its people.²⁸⁵

Accordingly, by applying the standard approved by Justices Brennan, Stewart, and White in *New York Times*, the court in *Progressive* found that the government met its heavy burden of showing justification for the prior restraint.

The result in *Progressive* is instructive because the case involved scientific information similar in nature to the information contained in a patent application. The information contained in The Progressive's article described how to make a weapon, much like a patent application teaches how to make an invention. Therefore, the court's use of the *New York Times* test of direct, immediate, and irreparable damage justified the previous application of the test to inventions on which secrecy orders are imposed. Note, however, the court in *Progressive* did find that the national security threat was great enough to warrant the prior restraint. These contrary results can be reconciled by considering the gravity of the threat at issue in *Progressive*: "What is involved here is information dealing with the most destructive weapon in the history of mankind, information of sufficient destructive potential to nullify the right to free speech and to endanger the right to life itself."²⁸⁶ The unique threat created by publishing technical information on how to build a hydrogen bomb satisfied the "direct, immediate, and irreparable damage" test. "A mistake in ruling against the United States could pave the way for thermonuclear annihilation for us all."²⁸⁷ Because the scientific information contained in many patent applications does not create as great of a threat, the *New York Times* test will not be satisfied and secrecy orders as applied to them would be unconstitutional.²⁸⁸

284. See *id.* at 999.

285. *Id.* at 1000 (citing *New York Times Co. v. United States*, 403 U.S. 713, 730 (1974) (Stewart, J., concurring)).

286. *Id.* at 995.

287. *Id.* at 996.

288. In some respects, even though *Progressive* purports to apply the *New York Times* test, in fact it appears to have applied a test considering the gravity of the harm, such as the one used in *Dennis v. United States*. See *supra* text accompanying notes 248-49. There is support from the Supreme Court for using such a method. In *Nebraska Press Association v. Stuart*, 427 U.S. 539, 562 (1976), Chief Justice Burger applied the test used in *United States*

iii. Potential Limitations on Applying the *New York Times* Test

The *New York Times* standard supports two limitations on the publication or disclosure of inventions. First, several of the justices in *New York Times* emphasized the importance of political speech²⁸⁹ and the right of the press to disseminate news.²⁹⁰ Invention secrecy implicates few of these factors. As noted above, scientific expression, despite its political implications, does not generally contribute to the marketplace of ideas in the same manner as political speech.²⁹¹ Moreover, the proscription on publication of an invention does not affect the right of the organized press to disseminate news. Second, a few of the justices in *New York Times* indicated that their decisions might have been different if the prior restraints were authorized under statute. For instance, Justice White stated:

But I nevertheless agree that the United States has not satisfied the very heavy burden that it must meet to warrant an injunction against publication in these cases, at least in the absence of express and appropriately limited congressional authorization for prior restraints in circumstances such as these.²⁹²

Justice Stewart took a similar view.²⁹³ Because a secrecy order is made pursuant to the Invention Secrecy Act, there may be more reason to allow the prior restraint.

Progressive seems to support these arguments, at least in part, by stating:

v. Dennis, where the Court shall determine whether "the gravity of the 'evil,' discounted by its improbability, justifies such invasion of free speech as is necessary to avoid the danger." 183 F.2d 201, 212 (2d. Cir. 1950), *aff'd*, 341 U.S. 494 (1951). *Nebraska Press*, however, dealt specifically with the problems of containing trial publicity. See 427 U.S. at 542. It is therefore unclear whether the Supreme Court would condone an application of the *Dennis* test to issues of national security.

289. See *New York Times*, 403 U.S. at 720 (Black, J., concurring) (emphasizing the importance in maintaining "the opportunity for free political discussion" (quoting *De Jonge v. Oregon*, 299 U.S. 353, 365 (1937) (Hughes, C.J.)); *id.* at 724 (Douglas, J., concurring) (stressing the importance of promoting debate over Vietnam policy).

290. See *id.* at 717 (Black, J., concurring) ("Both the history and language of the First Amendment support the view that the press must be left free to publish news, whatever the source, without censorship, injunctions, or prior restraints"); *id.* at 730-31 (White, J., concurring) ("I concur in today's judgments, but only because of the concededly extraordinary protection against prior restraints enjoyed by the press under our constitutional system").

291. See *supra* text accompanying notes 225-30.

292. *New York Times*, 403 U.S. at 731 (White, J., concurring).

293. See *id.* at 730 (Stewart, J., concurring).

They [defendants] believe publication will provide the people with needed information to make informed decisions on an urgent issue of public concern. However, this Court can find no plausible reason why the public needs to know the technical details about hydrogen bomb construction to carry on an informed debate on this issue.²⁹⁴

This statement implies that the court was more willing to justify the prior restraint because the information contained in the article had less First Amendment value. Furthermore, the court did seem to place great value on the fact that a particular statute was involved in authorizing the restraint:

A final and most vital difference between [this case and *New York Times*] ... is the fact that a specific statute is involved here. Section 2274 of the Atomic Energy Act prohibits anyone from communicating, transmitting or disclosing any restricted data to any person "with reason to believe such data will be utilized to injure the United States or to secure an advantage to any foreign nation."²⁹⁵

The fact that Congress, through the Atomic Energy Act, authorized the imposition of the prior restraint provided legitimacy to the decision that the expression should be restrained. Because the Invention Secrecy Act provides statutory authority for invention secrecy, the same sort of argument can be made to justify a secrecy order as a prior restraint.

In spite of these arguments, the fact remains that the court in *Progressive* actually applied the *New York Times* test of direct, immediate, and irreparable damage. The consideration of additional factors was only necessary in *Progressive* because the court attempted to justify prohibiting disclosure on a subject matter so inherently dangerous to national security. Therefore, the *New York Times* test should still be the primary standard for determining whether the prior restraint created by a secrecy order is constitutional. The consideration of the First Amendment value of scientific expression and the statutory authorization of the prior restraint may prove helpful in determining the outcome when the result reached under the *New York Times* test may not be so clear. For instance, for those borderline inventions in which it is unclear whether the gravity of the harm may cause direct, immediate, and irreparable damage, these factors may tip the scales in favor of allowing the prior restraint. However, when the publication or disclosure of an invention clearly does not create direct, immediate, and irreparable damage, consideration of these additional factors is unnecessary. Accordingly, because many inventions would easily fail the *New York Times* test, secrecy orders as applied to these inventions would be unconstitutional.

294. *Progressive*, 467 F. Supp. at 994.

295. *Id.*

As a final point, the government may argue that military agencies typically receive a large amount of discretion in issues of national security, so the Court should defer to the agency's judgment regarding the necessity of a particular secrecy order. "[U]nless Congress specifically has provided otherwise, courts traditionally have been reluctant to intrude upon the authority of the Executive in military and national security affairs."²⁹⁶ Because of this discretion, if a government agency makes a determination that an invention creates direct, immediate, and irreparable damage, the Court would be unlikely to question this decision. However, the standard currently imposed by the Invention Secrecy Act is not as high as the *New York Times* test. When an agency issues a secrecy order, it has only determined that publication or disclosure of the invention would cause a threat to national security.²⁹⁷ The agency has not explicitly found direct, immediate, or irreparable damage. Without such findings, the Court need not defer to the agency's judgment, and should still find a secrecy order unconstitutional.

3. THE CONSTITUTIONALITY OF SUBSEQUENT PUNISHMENTS CREATED BY THE INVENTION SECRECY ACT

In addition to the possible prior restraint created by the imposition of a secrecy order, the Invention Secrecy Act also imposes two types of subsequent punishments on inventors. If an inventor violates a secrecy order by publishing or disclosing information relating to his invention, section 182 calls for abandonment of the patent,²⁹⁸ and section 186 imposes criminal fines and/or imprisonment if this publication or disclosure is willful.²⁹⁹ A discussion of these subsequent punishments may seem unnecessary given the fact that the prior restraint analysis will often be dispositive of the issue of whether a secrecy order is constitutional. If a secrecy order is an unconstitutional prior restraint, it is unnecessary to analyze whether the penalty provisions enforcing the order are unconstitutional as well. Likewise, if a secrecy order does create a prior restraint, but is constitutional, then the subsequent punishment provisions should also be constitutional because the First

296. *Department of Navy v. Egan*, 484 U.S. 518, 530 (1988) (citations omitted).

297. See 35 U.S.C. § 181 (1994).

298. 35 U.S.C. § 182 (1994).

299. 35 U.S.C. § 186 (1994).

Amendment treats prior restraints much more harshly than subsequent punishments.³⁰⁰

Subsequent punishment analysis remains necessary only when no prior restraints have been found on the expression under consideration. The penalty provisions contained in sections 182 and 186 then become the primary government restrictions at issue in the constitutional analysis.³⁰¹ Unlike the prior restraint analysis, the constitutionality of the subsequent punishment provisions depends in large part on whether the expression proscribed by the Act is protected.³⁰² When speech is protected, the Court has repeatedly held that content-based restrictions on expression are subject to strict scrutiny.³⁰³ The penalty provisions at issue here fit the definition of content-based restrictions because they restrict expression on the basis of subject matter.³⁰⁴ Under the strict scrutiny standard, the government regulations must be: (1) necessary to serve a compelling state interest, and (2) narrowly drawn to achieve that interest.³⁰⁵

The Court has established that national security is a compelling interest. "The Government has a compelling interest in protecting ... the secrecy of information important to our national security"³⁰⁶ The

300. See *Alexander v. United States*, 509 U.S. 544, 554 (1993). The reason for the harsher treatment given to prior restraints derives from the particular danger that prior restraints pose to expression:

A system of prior restraint is in many ways more inhibiting than a system of subsequent punishment: It is likely to bring under government scrutiny a far wider range of expression; it shuts off communication before it takes place; suppression by a stroke of the pen is more likely to be applied than suppression through a criminal process; the procedures do not require attention to the safeguards of the criminal process; the system allows less opportunity for public appraisal and criticism; the dynamics of the system drive toward excesses, as the history of all censorship shows.

Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 589-90 (1976) (Brennan, J., concurring) (citing T. EMERSON, *THE SYSTEM OF FREEDOM OF EXPRESSION* 506 (1970)).

301. Even if the Invention Secrecy Act does create a prior restraint, the analysis of subsequent punishments still makes for a useful academic discussion.

302. See discussion *supra* Part III.B.

303. See *Denver Area Educational Telecommunications Consortium, Inc. v. Federal Communications Commission*, 116 S.Ct. 2374, 2413 (1996) (Kennedy, J., concurring and dissenting). Even if scientific expression is completely unprotected, the government may still not impose content-based restrictions on the expression. See *R.A.V. v. City of St. Paul*, 505 U.S. 377, 383-84 (1992).

304. See *TRIBE*, *supra* note 235, § 12-3, at 803.

305. See *Widmar v. Vincent*, 454 U.S. 263, 269-70 (1981).

306. *Snepp v. United States*, 444 U.S. 507, 509 n.3 (1980).

constitutional analysis turns on whether the penalty provisions imposed by the Invention Secrecy Act are narrowly tailored to serving the national security interest. In *United States v. Robel*,³⁰⁷ the Court discussed how such a determination should be made: "We have ruled only that the Constitution requires that the conflict between congressional power and individual rights be accommodated by legislation drawn more narrowly to avoid the conflict."³⁰⁸ The provisions of the Invention Secrecy Act should attempt to minimize the imposition placed on First Amendment values. Inventors would argue, however, that these provisions do not meet this goal, since under the ambiguous and uncertain standards established for the imposition of secrecy orders,³⁰⁹ certain inventions may have secrecy orders imposed on them even though they do not create a substantial threat to the national security. Inventors would also argue that the standards used by the Invention Secrecy Act create problems of overbreadth for these very same reasons.³¹⁰ Specifically, the subsequent punishment provisions have the potential to proscribe speech that does not pose a significant national security threat; therefore, these provisions are not narrowly tailored to protecting the national security interest.

The problem with this argument is that the statute defers secrecy order decisions to the judgment of the interested government agency. Since the penalty provisions are dependent on the issuance of specific orders, the constitutionality of invention secrecy should not be determined on the basis of the statute in its entirety. Instead, the Court must employ a case-by-case inquiry into each individual order to determine whether strict scrutiny is satisfied. Therefore, the individual inventor cannot claim overbreadth or a lack of narrowly tailored legislation on the basis of secrecy orders affecting other inventors.

In most individual cases strict scrutiny should be easy enough to satisfy. Again, national security has clearly been identified as a

307. 389 U.S. 258 (1967). *Robel* involved section 5(a)(1)(D) of the Subversive Activities Control Act, which made it unlawful for any member of a Communist-action organization "to engage in any employment in any defense facility." *Id.* at 259-60 (citing 64 Stat. 992, 50 U.S.C. § 784(a)(1)(D)). The purpose of this section was "to reduce the threat of sabotage and espionage in the Nation's defense plants." *Id.* at 264. In finding the section unconstitutional, the Court emphasized that section 5(a)(1)(D) "cut deeply into the right of association," and put the appellee "to the choice of surrendering his organizational affiliation, regardless of whether his membership threatened the security of a defense facility." *Id.* at 264-65.

308. *Id.* at 267-68 n.20.

309. See discussion *supra* Part III.

310. See *Broadrick v. Oklahoma*, 413 U.S. 601 (1973) (requiring overbreadth to be substantial).

compelling interest.³¹¹ In addition, recall that the courts will typically defer to executive authority with respect to issues of national security.³¹² Thus, even for secrecy orders with marginal national security implications, the Court would be unlikely to question a military determination that the national security interest is compelling.³¹³ The individual secrecy order is also narrowly tailored because its prohibition is limited to information *material* to the subject matter of the invention.³¹⁴ For these reasons, strict scrutiny can be satisfied and the subsequent punishment provisions would be constitutional.³¹⁵

311. See *Snepp v. United States*, 444 U.S. 507, 509 n.3 (1980).

312. See *Department of Navy v. Egan*, 484 U.S. 518, 530 (1988) (citations omitted).

313. Note the difference between deferring to an agency determination that the national security interest is compelling, discussed herein, with deferring to an agency determination that publication or disclosure creates direct, immediate, and irreparable damage, discussed *supra* text accompanying notes 296-97. In the present situation, it is appropriate to defer to the agency's judgment because the mere act of imposing a secrecy order reflects the agency's belief that there is a compelling interest in protecting the national security. In the situation before, it was inappropriate to defer to the agency's judgment because the agency had never made a determination that there was direct, immediate, and irreparable damage. Also note that the deference given to national security interests does have its limits. In *United States v. Robel*, the Court rejected an argument that Congress' war making power gave it broad discretion to enact a statute limiting First Amendment rights: "[T]he phrase 'war power' cannot be invoked as a talismanic incantation to support any exercise of congressional power which can be brought within its ambit. '[E]ven the war power does not remove constitutional limitations safeguarding essential liberties.'" *Robel*, 389 U.S. at 263-64 (quoting *Home Bldg. & Loan Ass'n v. Blaisdell*, 290 U.S. 398, 426 (1934)). Although *Robel* involved congressional legislation and not executive decision-making, the significance of this statement should not be ignored. Government action relying on the national security interest should not be exercised indiscriminately. When the government agency uses its discretion to impose a secrecy order on an invention, it must take care not to overly burden First Amendment liberties.

314. See *supra* text accompanying note 120.

315. Because strict scrutiny was found to be satisfied, it is unnecessary to go into great detail of the other arguments the government could have made. Suffice it to say that the government could also have relied on the nonpolitical nature of the expression to argue that a lesser standard of review should apply. The basis for such an argument would be that the penalty provisions are not in fact content-based regulations. Although the government action proscribes the expression on the basis of the particular content of the patent applications, the government is not actually concerned with the message of the expression. Rather, the government is only concerned with the effect that the speech would have on the national security. In cases involving content-neutral regulations on speech, a lesser standard of review applies. See generally *TRIBE*, *supra* note 235, § 12-23, at 977-86.

C. Fifth Amendment Analysis

The Fifth Amendment states: "No person shall ... be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."³¹⁶ These two provisions, known as the Due Process Clause and the Takings Clause, respectively, impose certain requirements on the government before it can deprive or take property away from a private individual. The analysis that follows considers whether the procedures promulgated by the Invention Secrecy Act satisfy the requirements imposed by these two clauses.

1. PROCEDURAL DUE PROCESS

The protections provided by the Due Process Clause of the Fifth Amendment have been described as protecting against two types of government actions:

So-called "substantive due process" prevents the government from engaging in conduct that "shocks the conscience," or interferes with rights "implicit in the concept of ordered liberty." When government action depriving a person of life, liberty, or property survives substantive due process scrutiny, it must still be implemented in a fair manner. This requirement has traditionally been referred to as "procedural" due process.³¹⁷

With respect to the Invention Secrecy Act, the imposition of a secrecy order survives substantive due process scrutiny because the government action involved is not of the type that "shocks the conscience" or interferes with rights "implicit in the concept of ordered liberty."³¹⁸ Therefore, the focus of the due process analysis is on the procedural aspects of the imposition of a secrecy order.

a. The Due Process Property Interest

The individual affected by the action must first establish a protected interest in life, liberty, or property. Case law has long established that patents are considered a property interest for due

316. U.S. CONST. amend. V.

317. *United States v. Salerno*, 481 U.S. 739, 746 (1987) (citations omitted).

318. A review of the substantive due process case law is beyond the scope of this article. Suffice it to say that the Court has taken an extremely limited view of what types of rights are deemed fundamental in order to receive substantive due process protection. See *Rochin v. California*, 342 U.S. 165, 172 (1952); *Palko v. Connecticut*, 302 U.S. 319, 325-26 (1937).

process purposes.³¹⁹ Invention secrecy, however, creates a unique situation because no patent has actually been issued. Instead, an inventor maintains an interest only in the pending patent application, or in the invention itself.

The Court has broadly defined what constitutes property under the Due Process Clause. Property is not limited to the "actual ownership of real estate, chattels, or money,"³²⁰ but extends to "interests that a person has already acquired in specific benefits."³²¹ The scope of this protection has been described by the Court as follows:

To have a property interest in a benefit, a person clearly must have more than an abstract need or desire for it. He must have more than a unilateral expectation of it. He must, instead, have a legitimate claim of entitlement to it [Property interests] are created and their dimensions are defined by existing rules or understandings that stem from an independent source such as state law—rules or understandings that secure certain benefits and that support claims of entitlement to those benefits.³²²

Applying these statements to the present situation, it appears that an inventor might not have a legitimate property interest in a pending patent application. Since a property interest can only exist for "already acquired" benefits, an inventor who only possesses a patent application has not yet received any of the benefits that derive from holding a patent.³²³ The provisions of the Invention Secrecy Act negate any notion that the rules or understandings established by the patent laws entitle an inventor to the benefits of a patent, because the Act clearly states that no patent shall issue on an application with an imposed secrecy order.³²⁴ An inventor applying for a patent has therefore been put on notice that

319. See *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985); *Consolidated Fruit Jar Co. v. Wright*, 94 U.S. 92, 96 (1876) ("[A] patent for an invention is as much property as a patent for land."); 35 U.S.C. § 261 (1994) ("[S]ubject to the provisions of this title, patents shall have the attributes of personal property").

320. *Board of Regents of State Colleges v. Roth*, 408 U.S. 564, 571-72 (1972) (holding that a non-tenured university professor who was not rehired had no property interest in employment at the university because the statutory terms of the professor's employment set out a specified end date).

321. *Id.* at 576.

322. *Id.* at 577.

323. The primary benefit of holding a patent is the ability to *exclude* others from making, using, offering to sell or selling the subject matter of the patent. See 35 U.S.C. § 271 (1994). This *exclusive* property interest is only created once the patent is issued; an inventor cannot sue another for infringement based on an otherwise allowable patent application.

324. See 35 U.S.C. § 181 para. 1, 3 (1994).

should his or her application receive a secrecy order, he or she shall not be able to obtain a patent. Accordingly, the inventor cannot legitimately claim that he or she is entitled to benefits from the application.

However, another approach is to consider the property interest as existing in the invention itself. There is no doubt that an inventor has a property interest in his own invention that can be protected by the Fifth Amendment. The statute itself, by using the phrase "an invention in which the Government has a property interest,"³²⁵ recognizes that an invention can constitute property. However, a secrecy order does not deprive the inventor of the actual invention. Rather, it deprives the inventor of the use of the invention by requiring him to keep the invention secret.³²⁶ Still, this deprivation of use effectively takes away "already acquired" benefits that the inventor has obtained in the invention, because prior to applying for the patent, the inventor had the right to publish, disclose and freely use the invention. After the secrecy order is issued, the inventor can no longer partake in these activities. Therefore, a secrecy order deprives the inventor of a property interest protected by the Due Process Clause.³²⁷

b. What Process Is Deserved?

The next question in the analysis is whether the provisions of the Invention Secrecy Act establish proper procedures for the deprivation of that interest. The Court has stated:

This Court consistently has held that some form of hearing is required before an individual is finally deprived of a property interest. The "right to be heard before being condemned to suffer grievous loss of any kind, even though it may not involve the stigma and hardships of a criminal conviction, is a principle basic to our society." The fundamental requirement of due process is the opportunity to be heard "at a meaningful time and in a meaningful manner."³²⁸

The language of the Court suggests that some sort of pretermination hearing is required to satisfy procedural due process. The Invention Secrecy Act, however, provides for no significant procedures before the issuance of the secrecy order. Rather, the Act contains only procedural

325. 35 U.S.C. § 181 para. 1 (1994).

326. See 35 U.S.C. § 181 para. 1, 3 (1994).

327. This view is supported by Court decisions in which an invention has been deemed to be private property for the purpose of eminent domain. See *infra* text accompanying note 351; see also *Ruckelhaus v. Monsanto*, 467 U.S. 986, 1001 (1984) (applying the same definition of property in a Takings Clause analysis as has been used in the procedural due process context).

328. *Mathews v. Eldridge*, 424 U.S. 319, 333 (1976) (citations omitted).

safeguards that occur subsequent to the issuance of the secrecy order, such as a right to appeal the secrecy order,³²⁹ a right to petition for modification³³⁰ or rescission,³³¹ and a right to obtain compensation.³³²

The procedural due process requirement has not been interpreted to strictly require a hearing before final termination of the interest. Instead, "due process is flexible and calls for such procedural protections as the particular situation demands."³³³ The Court's preferred approach is to apply a balancing test considering three factors:

First, the private interest that will be affected by the official action; second, the risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.³³⁴

The following section applies this test to the imposition of a secrecy order to determine whether pretermination procedures are required, or whether the existing post-termination procedures are sufficient.

The first factor that should be considered is the private interest. A secrecy order temporarily prevents an inventor from receiving a patent on an invention that is otherwise patentable.³³⁵ The private interest affected is the inventor's interest in obtaining this patent, or other benefits that can be derived from the use of the invention. More specifically, the inventor's main interest is obtaining a patent sooner rather than later. The Court has held that the need for hearings *prior* to termination of benefits is important only for those people on the very margin of subsistence, emphasizing the importance of financial need.³³⁶ An inventor waiting for a patent does not have a presumption of an important financial need. Further, in a social security disability benefits case, the Court held that the "sole interest is in the uninterrupted receipt of this source of income pending final administrative decision on [the] claim."³³⁷ The inventor who has not yet received a patent has also not yet obtained any benefits from the potential patent, and therefore does not face the problem of

329. See 35 U.S.C. § 181 (1994).

330. See 37 C.F.R. § 5.5 (1996).

331. See 37 C.F.R. § 5.4 (1996).

332. See 35 U.S.C. § 183 (1994).

333. *Morrissey v. Brewer*, 408 U.S. 471, 481 (1972).

334. *Eldridge*, 424 U.S. at 335 (citations omitted).

335. See 35 U.S.C. § 181 (1994).

336. See *Goldberg v. Kelly*, 397 U.S. 254, 264 (1970).

337. *Eldridge*, 424 U.S. at 340.

having financial benefits interrupted. Consequently, the inventor's private interest in obtaining a pretermination hearing is minimal.

The second factor to be considered is "the fairness and reliability of the existing pretermination procedures, and the probable value, if any, of additional procedural safeguards."³³⁸ This includes assessing any possible bias of the group making the termination decision.³³⁹ Prior to the imposition of the secrecy order, there are very few safeguards used by either the government agency requesting the order or by the Commissioner of Patents. The Act gives the interested government agency discretion to decide whether a secrecy order is appropriate. Although this may show bias, additional procedures probably would not be helpful. The government agency is in the best position to determine if the secrecy order is necessary. Moreover, the Court has given government agencies broad discretion in determining the scope of procedural due process: "In assessing what process is due ..., substantial weight must be given to the good-faith judgments of the individuals charged by Congress with the administration of ... programs that the procedures they have provided assure fair consideration of the entitlement claims of individuals."³⁴⁰ Given these factors, the addition of a pretermination hearing to contest a secrecy order would be unlikely to decrease the probability of an erroneous deprivation of property interest.

The third factor to be considered in the balancing test is the government interest. This includes consideration of "the administrative burden and other societal costs that would be associated with requiring, as a matter of constitutional right, an evidentiary hearing"³⁴¹ The Court has recognized in the context of disability benefit termination that the administrative and societal costs may not be insubstantial.³⁴² In addition, the Court has expressed reluctance to increase these costs when significant discretion should be given to the administrative agencies responsible for carrying out the termination of benefits.³⁴³ Because of the considerable number of secrecy orders imposed every year, requiring an evidentiary hearing for each one prior to its imposition would place significant costs on the government. The government's interest in protecting the national security is also important because it justifies the need to impose secrecy orders quickly before inventors release any

338. *Id.* at 343.

339. *See id.* at 344.

340. *Id.* at 349.

341. *Id.* at 347.

342. *See id.*

343. *See id.* at 348.

potentially dangerous information. Therefore, the third factor strikes in favor of retaining the existing procedures.

Based on the three factors discussed above, the costs of creating a pretermination hearing are too great to justify. To satisfy procedural due process, post-termination procedures must merely provide inventors with notice of the secrecy order and a meaningful opportunity to be heard.³⁴⁴ Inventors receive constructive notice of the secrecy order through the statute itself,³⁴⁵ and actual notice from the Patent Office once it imposes a secrecy order.³⁴⁶ Inventors receive an opportunity to be heard by an unbiased party through an appeal to the Secretary of Commerce.³⁴⁷ Accordingly, the Invention Secrecy Act does comport with the flexible requirements of procedural due process.

2. THE TAKINGS CLAUSE

The government's power of eminent domain gives it the right to take private property for public use, provided that it pays just compensation.³⁴⁸ The particular questions involved in the Takings Clause analysis are: (1) do inventors have a property interest protected by the Takings Clause, (2) if so, do the regulations created by the Invention Secrecy Act effect a taking of that property interest, (3) if there is a taking, is it a taking for a public use, (4) if there is a taking for public use, does the statute adequately provide for just compensation?³⁴⁹

a. Do Inventors Have a Protected Property Interest?

The first question in the Takings Clause analysis is very similar to the initial question posed in the procedural due process analysis. The only distinction made in the language of the Fifth Amendment between the Due Process Clause and the Takings Clause is that in the takings context, "*private* property" must be taken.³⁵⁰ Although certain inventions may be government-controlled and therefore not private, the focus of this

344. See *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 174 (1974).

345. See *Texaco Inc. v. Short*, 454 U.S. 516, 532 (1982) (stating that to satisfy due process, "a legislature need do nothing more than enact and publish the law, and afford the citizenry a reasonable opportunity to familiarize itself with its terms and to comply"). Before the ASPAB List was declassified, some inventors could have argued that they received no notice that their inventions might cover technology contained in the list. Now, however, because the list has been declassified, inventors can no longer make this argument.

346. See *supra* text accompanying note 120.

347. See 37 C.F.R. § 5.8 (1996).

348. See U.S. CONST. amend. V.

349. See *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1000-01 (1984).

350. See U.S. CONST. amend. V (emphasis added).

analysis is on those secrecy orders imposed on private inventors. The Court has recognized that inventions can generally be the subject of eminent domain:

Many inventions relate to subjects which can only be properly used by the government, such as explosive shells, rams, and submarine batteries to be attached to armed vessels. If it could use such inventions without compensation, the inventors could get no return at all for their discoveries and experiments. It has been the general practice, when inventions have been made which are desirable for government use, either for the government to purchase them from the inventors, and use them as secrets of the proper department; or, if a patent is granted, to pay the patentee a fair compensation for their use.³⁵¹

Moreover, the Supreme Court has used the same definition of property with respect to the Takings Clause as it has used in the procedural due process cases.³⁵² For many of the same reasons described in the procedural due process analysis, inventors possess a protected property interest under the Fifth Amendment's Takings Clause.³⁵³

b. Do Government Regulations Effect a Taking of Property?

Court decisions in the context of eminent domain and secrecy orders indicate that a Fifth Amendment taking is possible. In *Constant v. United States (Constant II)*,³⁵⁴ the Court of Claims held that there can be no Fifth Amendment taking from the mere issuance of a secrecy order.³⁵⁵ Most important to the case was the fact that the inventor did not allege any specific use of the invention by the government.³⁵⁶ This lack of factual support for the takings claim was crucial to the court's decision. The court implied that had the takings claim been properly established by alleging government use, the court would be disposed to act upon it.³⁵⁷ However, where there is only an allegation of damage from the mere imposition of a secrecy order, without an allegation of government use, the inventor's sole recourse is the compensation procedure set out in the Invention Secrecy Act. "An inventor whose patent has been withheld under a secrecy order has a right created by statute, sections 181-88, to obtain compensation from the United States, and the statute sets forth

351. *James v. Campbell*, 104 U.S. 356, 358 (1881).

352. *See Monsanto*, 467 U.S. at 1001 (quoting *Board of Regents v. Roth*, 408 U.S. 564, 577 (1972)).

353. *See discussion supra* Part III.C.1.a.

354. *Constant v. United States (Constant II)*, 16 Cl. Ct. 629 (1989)

355. *See id.* at 632.

356. *See id.*

357. *See id.* at 633.

procedures whereby this right may be realized."³⁵⁸ Thus, *Constant II* supports the contention that if an inventor can allege actual use of an invention as described in a patent application, the government action moves from a mere regulation to a compensable taking.

Moreover, very rarely will an inventor pursue the takings claim without first attempting to obtain compensation under section 183. In fact, the court in *Constant II* ordered that the inventor take steps to request a modification of the secrecy order before it would even consider the takings claim.³⁵⁹ This order comports with Supreme Court authority: "Equitable relief is not available to enjoin an alleged taking of private property for a public use, duly authorized by law, when a suit for compensation can be brought against the sovereign subsequent to the taking."³⁶⁰ In addition, because compensation under section 183 is broader than under an eminent domain theory,³⁶¹ inventors will prefer pursuing the section 183 remedy first.

There are indications that because of the remedy available under section 183, a court may refuse entirely to hear a taking claim. Almost every case dealing with secrecy orders addresses compensation under the provisions of section 183 rather than the Fifth Amendment.³⁶² In *Hornback v. United States*, Hornback, who was issued with a secrecy order for a patent application on a missile guidance system, filed a complaint in district court alleging entitlement to damages under 35 U.S.C. § 183 and under the Fifth Amendment.³⁶³ With respect to the Fifth Amendment argument, the District Court held that "the Fifth Amendment takings

358. *Id.* at 632.

359. *See id.* at 632-33.

360. *Monsanto*, 467 U.S. at 1016 (holding that Monsanto's takings claim against the Environmental Protection Agency was not ripe for resolution because Monsanto did not yet pursue compensation authorized under the Tucker Act).

361. *See supra* text accompanying note 156.

362. *See Farrand Optical Co. v. United States*, 325 F.2d 328, 335 (2d Cir. 1963) (refusing to allow just compensation interest because such interest is only allowed when the claimant is entitled to just compensation under the Fifth Amendment); *Halpern v. United States*, 258 F.2d 36, 39-40 (2d Cir. 1958); *Constant v. United States*, 617 F.2d 239, 241-42 (Ct. Cl. 1980) ("use of the words 'just compensation' in a federal statute does not necessarily mean that a constitutional taking is involved"); *see also Radioptics, Inc. v. United States*, 621 F.2d 1113, 1126-27 (Ct. Cl. 1980) (holding that a mere prohibition on disclosure or publication of classified information contained in a research proposal, without a prohibition on use of the information, was not a significant enough imposition to cause a taking of the information).

363. *Hornback v. United States*, 16 F.3d 422, 1993 WL 528066 (Fed. Cir. 1994) (unpublished disposition).

argument is inappropriate, because 35 U.S.C. § 183 provides the exclusive remedy to inventor-owners for damages claimed as the result of a secrecy order imposed by the government."³⁶⁴ Although the Federal Circuit affirmed the District Court's decision, this opinion was unpublished and determined to be unquotable as precedent. Thus, it is difficult to ascertain the significance of the *Hornback* decision. On one hand, the decision itself supports the contention that there can be no Fifth Amendment taking from the imposition of a secrecy order with or without government use. On the other hand, the fact that the Federal Circuit depublished the opinion (and the United States Supreme Court denied certiorari) may imply that the higher courts may not be so opposed to such a Fifth Amendment taking claim.

Under general takings law, the government regulation at issue under the Invention Secrecy Act does seem to possess the typical characteristics necessary for finding a taking. In particular, the fact that a secrecy order deprives an inventor of virtually all economic use of the invention weighs very heavily toward finding a compensable taking.³⁶⁵ Therefore, despite the uncertainties surrounding some of the case law as to whether a taking claim is available for the imposition of a secrecy order, the very nature of the regulation, especially when accompanied by government use, strongly supports that such a claim should be recognized. Court decisions have required that before an inventor may even pursue the takings claim, he must exhaust his options under section 183 of the Act. However, owing to the inadequacies of such compensation,³⁶⁶ if the section 183 remedy fails the inventor may still want to pursue compensation under an eminent domain theory. Accordingly, even though courts may be reluctant to hear a claim under the Takings Clause, inventors should continue to argue that such compensation is available.³⁶⁷

c. Is There a Taking for Public Use?

For a constitutional government taking to occur, the taking must be for a "public use." The public use requirement is a very broad one, allowing a taking so long as it is rationally related to a conceivable public

364. *Id.*

365. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015-16 (1992) (implying that the Court will forego the typical case-specific inquiry and will find a per se taking where a property owner has been deprived of all economically viable use of his land).

366. See discussion *supra* Part II.D.3.

367. For further arguments that a patent application cannot be the subject to a Fifth Amendment taking, see generally Hausken, *supra* note 11, at 245.

purpose.³⁶⁸ "The scope of the 'public use' requirement of the Takings Clause is 'coterminous with the scope of a sovereign's police powers.'" ³⁶⁹ The protection of national security falls within the scope of these police powers. "The Fifth Amendment implicitly sanctions the taking of private property for public use by requiring only that just compensation be paid therefore [P]ublic use includes not only what is necessary for national security but also what is needed for maintaining public health and safety."³⁷⁰ Because a secrecy order serves to protect the national security, the public use requirement is satisfied.

d. Has Just Compensation Been Paid?

Having taken the private property, the government must pay just compensation. The best approach for determining the proper amount is modeled on cases in which the government has been ordered to pay just compensation for patent infringement.³⁷¹ In the Federal Court of Claims, Title 28 U.S.C. section 1498 authorizes a cause of action for government infringement on an inventor's patent.³⁷² Section 1498 "is essentially an Act to authorize the eminent domain taking of a patent license, and to provide just compensation for the patentee."³⁷³ In these cases, recovery should be "reasonable and entire compensation" for the use and manufacture of the invention.³⁷⁴

The Court of Claims has applied the "reasonable and entire compensation" guideline to find that a reasonable royalty is the only appropriate method for awarding just compensation.³⁷⁵ The court rejected the use of remedies under Title 35 because it "would grant plaintiff a recovery in excess of the just compensation required by the fifth amendment, and in excess of the reasonable and entire compensation contemplated by Congress with the passage of § 1498."³⁷⁶

368. See *Hawaii Housing Auth. v. Midkiff*, 467 U.S. 229, 241 (1984).

369. *Ruckelhaus v. Monsanto*, 467 U.S. 986, 1014 (1984) (quoting *Midkiff*, 467 U.S. at 240).

370. See H.R. REP. NO. 1540, *supra* note 9, at 25 (quoting PETER D. ROSENBERG, PATENT LAW FUNDAMENTALS 177 (1977)).

371. Just compensation cannot be measured under cases interpreting that term for purposes of section 183. *Constant I* recognized that compensation under section 183 should not be limited to damages under an eminent domain theory. See *Constant I*, 617 F.2d 239, 240, 242 (Ct. Cl. 1980). Therefore, compensation under a takings claim is more limited.

372. 28 U.S.C. § 1498(a) (1994).

373. *Leesona v. United States*, 599 F.2d 958, 966 (Ct. Cl. 1979).

374. See 28 U.S.C. § 1498(a) (1994).

375. See *Leesona*, 599 F.2d at 973.

376. *Id.* at 969.

Awards for increased damages, attorney's fees, savings to the government, and lost profits are therefore inappropriate.³⁷⁷ However, consideration of these types of remedies may be appropriate in applying what the court calls the "comparative royalty technique."³⁷⁸ This technique "compute[s] the award by estimating a reasonable royalty on a proper compensation base, and then test[ing] this award by an examination of other available measures—savings to the government, lost profits, etc."³⁷⁹ The initial reasonable royalty is based on a hypothetical meeting between a willing buyer and a willing seller.³⁸⁰ The other factors are then taken into account to "renegotiate" the reasonableness of the amount.³⁸¹ Additionally, a patentee is entitled to delay-damages, i.e., damages for the government's delay in payment of a reasonable royalty.³⁸² Section 1498(a) of Title 28 also provides that "reasonable and entire compensation shall include the owner's reasonable costs, including reasonable fees for expert witnesses and attorneys, in pursuing the action"³⁸³

Therefore, if an inventor cannot obtain adequate compensation under section 183 of the Invention Secrecy Act, the inventor should pursue compensation in an amount calculated by the aforementioned procedures on the theory that a secrecy order does effect a Fifth Amendment taking for which just compensation must be paid.

V. CONCLUSION

While invention secrecy may have been justified during wartime, the application of invention secrecy during peacetime raises questions regarding the necessity of the doctrine and its effects on inventors' rights. As a matter of legislative policy, the peacetime provisions of the Invention Secrecy Act suffer from a lack of support. The peacetime provisions rely more upon their wartime foundations than upon any articulated justification to protect the national security during peacetime. This article calls for Congress to justify why the peacetime provisions of the Invention Secrecy Act continue to be necessary. This does not mean that the peacetime provisions are completely *unnecessary*. However, invention secrecy should not be concerned with mere speculation

377. *See id.* at 966-71.

378. *Id.* at 973.

379. *Id.*

380. *See* *Tektronix, Inc. v. United States*, 552 F.2d 343, 349 (Ct. Cl. 1977) (citing *Georgia-Pacific Corp. v. U.S. Plywood-Champion Papers, Inc.*, 446 F.2d 295 (2d Cir. 1971)).

381. *See Leeson*, 599 F.2d at 973.

382. *See id.* at 979.

383. 28 U.S.C. § 1498(a) (1994).

regarding a possible threat to national security. Instead, invention secrecy should only be applied when a threat to national security is both imminent and likely. Adopting such a policy will guarantee the protection of national security, while also ensuring the continued promotion of the goals of the patent system and the protection of inventors' rights.

This article makes two proposals regarding the duration of secrecy orders. First, for those inventions that the government predicts would always cause harm to the national security, a permanent secrecy order is appropriate. Permanent secrecy orders benefit inventors because they remove any doubt in the inventors' minds that they might someday be able to exploit their inventions. It also allows inventors to pursue compensation immediately for the imposition of the orders. Second, because the duration of a patent is measured twenty years from the date of *filing*, Congress should consider using a extension period longer than five years to ensure that inventors subjected to secrecy orders of extended duration can exploit their patents for a full term.

The system of compensation established by the Invention Secrecy Act is flawed. Inventors very rarely receive compensation for the imposition of a secrecy order because of the difficulties of proving actual damages and the excessive discretion given to the government agencies. Compensation procedures should be revised to make compensation easier to obtain. Proof of actual damages should not be required. An appropriate solution should consider several factors—such as the degree of utility, novelty, and importance of the invention—which can be used to calculate compensation without proof of actual damages and a separate board to adjudicate disputes.

Constitutional problems present the most serious questions. With respect to the First Amendment, a secrecy order creates a prior restraint on expression. Many secrecy orders issued during peacetime would be found unconstitutional because such orders do not possess the requisite direct, immediate, and irreparable danger to national security. However, a few inventions may satisfy this test if they create extreme danger; the invention of a bomb is an appropriate example. In the unlikely case that courts view secrecy orders only as a subsequent punishment on expression, secrecy orders can satisfy strict scrutiny—and are therefore constitutional—because of a compelling interest in protecting the national security, and the deference given to the executive branch in making national security-related decisions.

The Fifth Amendment problems raised under the Invention Secrecy Act are less severe than the First Amendment problems. Procedural due process can be satisfied through the Act's post-termination procedures providing inventors with notice and an opportunity to be heard. However, the Takings Clause presents the larger problem. When the

government issues a secrecy order and subsequently uses the invention for its own purposes, a taking has occurred for which just compensation must be paid. However, some cases have indicated that because the Invention Secrecy Act already provides compensation under section 183, the court will not even hear the takings claim. This remains an unresolved issue. The courts or the legislature must provide an answer as to whether a valid claim under the Takings Clause can be recognized. Until this issue is resolved, inventors should not be precluded from obtaining compensation under the Takings Clause.

There are signs that government agencies may have finally begun to limit their use of secrecy orders: "In agreement with the Clinton administration policy ... the Pentagon is preparing to limit its use of the ISA and allow greater flexibility."³⁸⁴ A suggestion has even been made to place the authority for issuing secrecy orders in the Commerce Department instead of the Pentagon.³⁸⁵ Nevertheless, secrecy orders continue to place significant burdens on private inventors during peacetime. Moreover, secrecy orders may be unconstitutional. For these reasons, the government today should examine the recommendations made throughout this article in an effort to reanalyze the necessity of peacetime invention secrecy and reformulate its operation.

384. *Pentagon to Overhaul the Invention Secrecy Act*, INTELLIGENCE NEWSLETTER, Apr. 1, 1993 (Indigo Publications).

385. See generally *Patent Office Tries to Silence Inventors* (National Public Radio broadcast, Sept. 14, 1992).

